

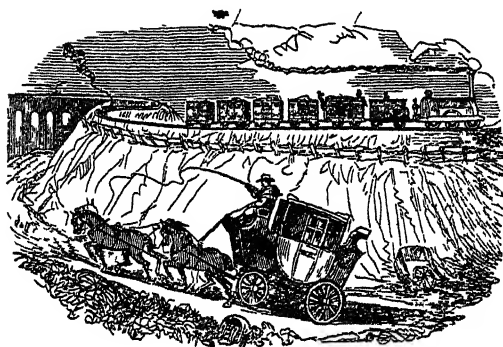


Royalty on the Rail-road

THE RAILWAY AGE

BY

CYRIL BRUYN ANDREWS



LONDON

COUNTRY LIFE LTD

1937

First published 1937

Printed and made in Great Britain
at the Curwen Press, Plaistow, London

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FOREWORD

The following introduction to the study of the early British railways, and of the various reactions that followed, is intended to give an appetite for further interest in the subject rather than in any way to be complete in itself. The charming early Railway Guides and the most interesting books on English railways, such as Mr. Dendy Marshall's, that have been published more recently, have both been of the greatest help in compiling the text and in choosing the pictures.

It would, however, have been very inadequate without the illustrations from Mr. John Phillimore's unique collection. The Public Libraries, and numberless public officials and private people, too numerous to mention, have also given inestimable assistance. Most of all my gratitude is due to the railway companies, whose patience and help from the beginning to the end, in the larger issues and in the smallest details, have never failed. Lastly, I am greatly indebted to my Daughter for constant help in the general arrangement of the text and illustrations, and to Mr. Noel Carrington for giving much personal attention to the production of the book.

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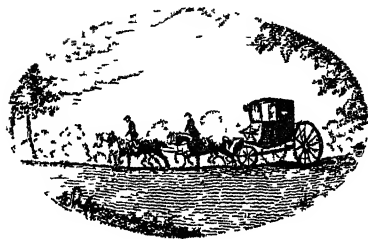
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THE RAILWAY AGE

THE FIRST RAILWAYS



Up to the latter half of the eighteenth century roads in England had been incredibly bad. In the earlier part of the sixteenth century anything on wheels travelled along them with difficulty. The State did little to the roads, in many parts the Church alone 'made smooth the way of the wanderer'. Riding was the normal mode of travel, and for those who could not ride there was the horse-litter, far preferable to the painful springless cart. It was only in 1598 that Stow remarks with astonishment that the world 'runs on wheels'.

But this new travelling on wheels was at first neither fast nor easy. In 1658 the stage coach from London to Edinburgh took a fortnight, in 1669 there was a boast that you could go from London to Oxford between the rising and the setting of the sun. It is true that the first Turnpike Act was passed in 1633, but the Turnpike Roads and Toll Gates were not in general use till a hundred years later. There were those who opposed all travel except on horseback. 'Stage coaches', John Cresell writes in 1672, 'effeminate His Majesty's subjects who, having used themselves to travel in them, have neither attained skill themselves nor bred up their children to good horsemanship.'

The same writer suggests that coaches are bad for trade. Gentlemen and Ladies journey to London, buy all their clothes there, getting such a Habit of Jollity that nothing afterwards in the country will serve them. Besides not only are saddlers, etc., cast on the parish but clothes and hats are no longer spoiled by two or three journeys on horseback.

Early in 1622 the Water Poet had expressed the same sentiments in more picturesque language.

Carroches, coaches, jades and Flanders mares,
 Do rob us of our shares, our wares, our fares;
 Against the ground we stand and knock our heeles,
 Whilst all our profit runs away on wheeles.
 And whosoever but observes and notes
 The great increase of coaches and of boates,
 Shall find their number more then c'er they were
 By halfe and more, within these thurty yeare,
 Then watermen at sea had service still,
 And those that stay'd at home had worke at will,
 Then upstart hel-cart coaches were to seek,
 A man could scarce see twenty in a weeke,
 But now I think a man may dayly see
 More than the wherryrs on the Thames can be.

It might have been some consolation to the Water Poet if he could have read that—

In 1703, when Prince George of Denmark went from Windsor to Petworth to meet Charles III. of Spain, it appears that the journey, which is a distance of about forty miles, occupied fourteen hours, although those who travelled it did not get out, save when they were *overturned* or stuck fast in the mire, until they reached their destination. 'We were thrown but once, indeed, in going', says the relator; 'but His Highness's body coach would have suffered very much if the nimble boors of Sussex had not frequently poised it, or supported it with their shoulders, from Godalming almost to Petworth. The last nine miles of the way cost us six hours to conquer them.'

Later coaches 'were known to have arrived in town from Birmingham early on the morning of the third day from that of their

departure; and that on one occasion, when conveying intelligence to Government, a mounted jockey, by avoiding the high roads, and taking to the less knee-deep and sludgy fields, actually reached the capital on the second day, and earned a fame greater than any to be attained on the course.'

There was no doubt that until the close of the eighteenth century the Turnpike Trusts were badly managed. Adam Smith remarks in 1776 that a broad-wheeled wagon with two men and eight horses in six weeks carries and brings back four tons of goods between London and Edinburgh, while a ship with six or eight men between London and Leith would carry and bring back two hundred tons of goods in the same time. Water was still the recognized mode of transit for all heavy traffic.

It is not to be wondered at that canals became popular. If transit by sea with its uncertain weather was so practical, what a godsend it would be to move goods throughout the country on smooth water with a steady horse to depend on instead of the shifting wind. As early as 1661 Sir William Sandys obtained his Act for making the Wye and Lugg navigable and for cutting new channels, and from then till 1792, when speculation in canals was widespread, canals grew and grew in popularity. Many, including Josiah Wedgwood, openly condemned the existing road traffic, and supported vigorously a scheme for a network of canals throughout England. The construction of canals may be divided roughly into four periods. The first, concerned with the improvement of rivers, started in 1720. The second, which gave Manchester and Birmingham artificial access to the ports on the Mersey and Trent and Severn, began in 1761. The third, which coincided with the adoption of the steam engine and the opening of the iron industry, occupied the years 1790 to 1800, and the fourth and last commenced at the close of the Wars and concluded shortly after 1820. It was soon

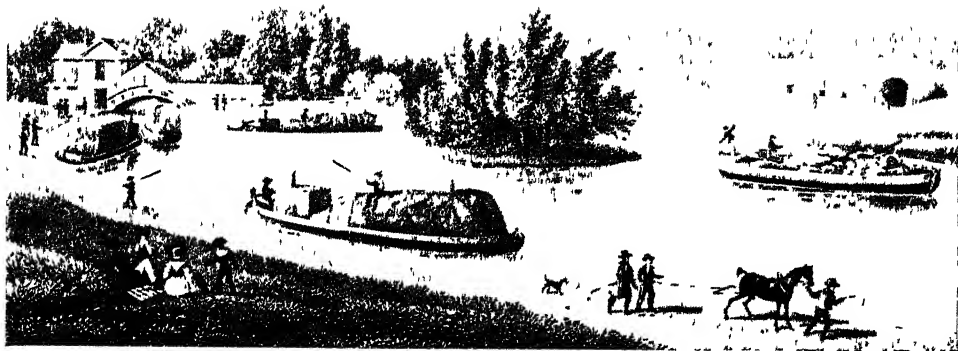
after this period that the railways showed signs of becoming serious rivals.

The first real canal in England, as opposed to the 'navigations' of former rivers, was that which joined the St. Helen's Coalfield to the Mersey in 1757, and for which Parliamentary power had been granted two years previously. But this was only a beginning, soon canals were to assume an importance that can scarcely be over-estimated. Up to then rivers had been the natural highways, open to all; and what were canals but improved rivers? The *Quarterly Review* of 1825 showed that the canal was fifteen times as efficient as the turnpike road. When James Brindley was asked the use of rivers he answered 'undoubtedly to feed the navigable canals'. Even the making of them was of very considerable use, it employed thousands of navvies and relieved unrest and the want of work amongst the unskilled.

But canals were expensive to make; the country that they went through was often picturesque and delightful to look at, but money had to be spent in traversing it, and that money demanded a return. The canal dues became high, the canal owners autocratic. The Government, and the traders especially, were becoming restive. The roads were at last benefiting by the new Turnpikes. Why should the canals, which were equally necessary, be enjoying this unpleasant monopoly? Trade was increasing, but easy transport was equally necessary. Were the Government justified in interfering?

Transport was not the only problem. ✓

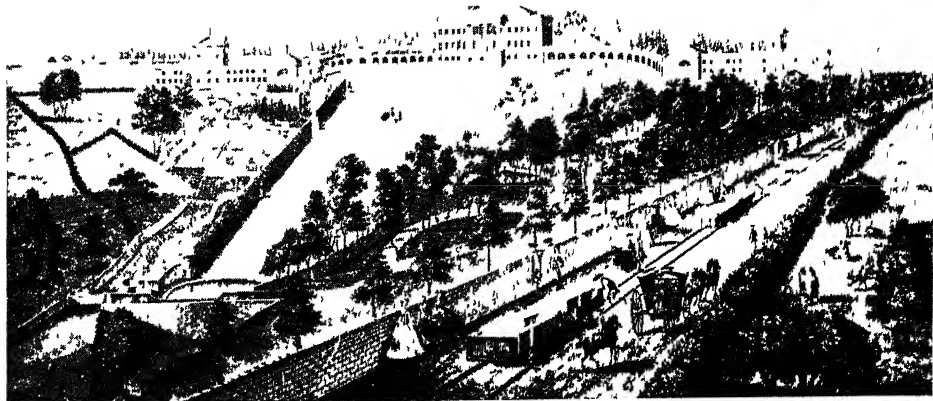
The early years of the nineteenth century were a period of bewildering transition: politics, economics, industry were in the melting-pot. On the Continent there had been violent upheavals; in France the King and Queen had been executed, and liberty and equality seemed dangerous words; in England the dawn of a new iron age was not only changing the face of the country, but creating



1 BARGE TRAFFIC ON THE REGENT'S CANAL IN 1828 *Before the advent of the steam engine practically all the heavy traffic was taken by water, and busy scenes, like this at Paddington, were common sights on all the canals of England*



2 AN EARLY HORSE-DRAWN RAILWAY AT PORTMADOC *The horse travelled by gravity downhill in a dandy cart, and then had to pull the empty train back to the quarry*



3 AN ENGINELESS RAILWAY AT PRIOR PARK BATH, 1752 *A rare and early print. The view shows an eighteenth-century county magnate turned industrialist, working his quarries with gravity traction on flanged wheels.*



4 'SUCCESS TO THE RAILROAD' *A very rare bottle, probably made to celebrate 'The Surrey Iron Rail-Road' opened in 1805, probably showing one of the horse drawn trucks on a Rail-Road.*

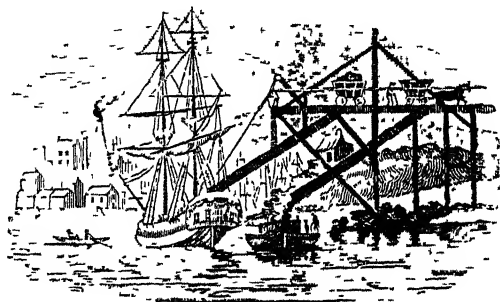
a new type of man. In the Midlands, especially, machinery was spreading with alarming rapidity, people were herding together in large towns, which were as new as their inhabitants, the countryside was being deserted, the labourer was becoming the mechanic, money was flowing into new channels.

Yet the old coaching days went on, personal and picturesque. Travel by road, or by water for heavy traffic, seemed of necessity fixed and unchangeable. In England there was a self-conscious proficiency. Never before had the roads been so well kept or speed so prodigious, the first iron bridge at Coalbrookdale was one of the wonders of the age, highwaymen were almost a thing of the past, ladies rode abroad alone and unattended, travel had surely reached the peak of progress.

Of course, there were still inconveniences, the horse had its limitations, but they were inevitable. To travel by Mail Coach was at the best of times still unpleasant: outside one was at the mercy of the weather, inside one was usually crowded and uncomfortable. The postchaise, whether private or hired, was expensive, and used almost entirely by the nobility and gentry. The poor as a rule did not travel, the middle classes were still in the making. Amongst manufacturers, the growing output of commodities made the movement of goods more and more of a problem, the loading stations of the canals were crowded and the facilities for communication lagged behind the prosperity of the new and prosperous towns. The stationary steam engines, now at work in the factories, were piling up goods faster than they could be moved. Yet the horse, with all its limitations and all its human interest, remained the only means of land transit, a permanently established part of the daily life of every man and woman.

It must be remembered that the railways did not come quite as suddenly as some people suppose. As soon as the wheels of the

trucks that used parallel courses of wood or stone were flanged, 'rail-ways' existed. Long before the advent of steam, certainly since the early fifteenth century, there had existed these wooden rails or 'tramways' along which horses drew trucks of coal or timber on the Tyneside, a 'tram' being the name for a baulk of timber. There are records of these 'wagon-ways' in 1660 in the neighbourhood of



Newcastle-upon-Tyne, and again in Tyneside in 1665, 1671 and 1672, and there are many early foreign prints. In 1767 cast-iron rails began to come into use; and by then it had become quite usual to allow trucks to run down slopes on primitive rails and then to haul them up again by ropes, worked by men or horses. Ralph Allen's Railway at Bath had been worked 'by gravity' in quarrying stone in 1734, and lastly that rather mysterious character, who built Westminster Bridge, was soon to be at work on flanges and brakes.

From the very beginning of the nineteenth century these railways for trucks drawn by men or horses were in full swing. In 1801 the first chartered line of rails, a short horse railroad, was working between Wandsworth and Croydon. It was a track that could be used by any Goods Carrier who could provide suitable wagons, and was known in the Act of the same year as the Surrey Iron Rail Way. In 1808 the Joint Scotch Railway Act was passed to convey

the Duke of Portland's coal from Kilmarnock to Troon. In 1804 Trevithick discovered that trucks could be propelled by the adhesion of a smooth wheel to a smooth rail. This, perhaps, more than anything paved the way to the use of the moving steam engine—although in 1817 a locomotive built by George Stenhouse, and put to work experimentally on the Kilmarnock and Troon Railway, had to be withdrawn owing to its weight being too great for the light plate rails. In 1823, *The Mechanic's Magazine* has an illustrated article on these Rail Trucks being used from the land right into the hold of a barge-like boat in order to take blocks of marble in and out of the boats at Plymouth Harbour, and in 1829 Brandreth's Patent Cyclopede was worked by a horse actually standing in the truck; and by 1821 'iron railways' existed in almost every English county, mostly in conjunction with collieries, ironworks, canals or rivers.

We can see plainly that so far rails owed their existence to the lack of knowledge of road making. If there had been good roads there would have been no necessity for rails, and we might have never had the railways at all, but passed directly from one form of road transit to another. Mechanically propelled vehicles on ordinary roads had been thought of whilst the idea of railways was still in its infancy, but they were abandoned largely owing to the imperfection of the roads.

The next step, or, rather, a parallel step, towards the railways as we know them was the stationary steam engine, which, even after locomotives had become quite common, was still used on certain railways. For steep gradients it was especially useful, it hauled the trucks along by a lengthy rope and could master any reasonable gradient. Even in 1825, at the Canterbury and Whitstable Railway, the trains were drawn along in three ways, by two stationary engines, by some horses and by one locomotive.

There is an entertaining account of the introduction of rope haulage by stationary, or fixed, engine power at the Waggon-way from Bewicke Main to the River Tyne. The opening day was May 17th, 1809.

‘The opening of the waggon-way from Bewicke Main to the river Tyne took place, on which occasion every road to it was crowded with passengers at an early hour, and before eleven o’clock about ten thousand people were assembled. About this time, four waggons of small coals were brought up the first plane by the steam-engine, to the great admiration of the spectators, but owing to some unexplained circumstance, the four waggons of best coals intended for the Tyne did not start till a much later hour.

‘As soon as the waggons reached the summit of the second and highest plane, up which they went with surprising velocity and regularity, the British flag was hoisted at Ayton cottage, and the event was announced by a discharge of six pieces of cannon, which were answered by an equal number from the *Ann and Isabella*, His Majesty’s armed ship on the Tyne, and from Deptford House, the residence of Mr. Cooke. Immediately on the waggons reaching the first plane, about four hundred gentlemen sat down to dinner, in a tent fitted up for the occasion.

‘An excellent military band attended. In the evening, in order to prove the excellence of the level railway, six men, without horses, took with the greatest ease four laden waggons, with each ten men on the top, from Ayton cottage to the Tyne; and the first coals being put on board the *Ann and Isabella*, the discharges of artillery were repeated.’

But there were visions of greater wonders, visions of man no longer propelled by himself or by some animal, or dragged by a stationary machine, but riding along on the machine itself, a god amongst mortals. Ideas of that kind appealed to the fantastic minded, and had even in a childish way been put into practice on the road, but to all but a few there was no reality in them, they only ended in smoke. To most people they were but the ideas of a Jules Verne, entertaining to those who delighted in the grotesque. Passengers had occasionally ridden in the coal trucks that the stationary engine dragged along, and perhaps it had suggested new

ideas. But it was a dangerous adventure. We might to-day in a sportive mood sit in a gravel basket at the end of a crane and travel adventurously through the air, but we would not make a practice of it, human life is too precious.

Not until the Highways Act of 1835 was the steam coach definitely fenced in, although in 1832 steam coaches on the road caused considerable comment, and a caricature of the Mulready envelope has on the flap a grotesque version of Burstall's second Coach. In December 1831 the report of a Select Committee was made public:

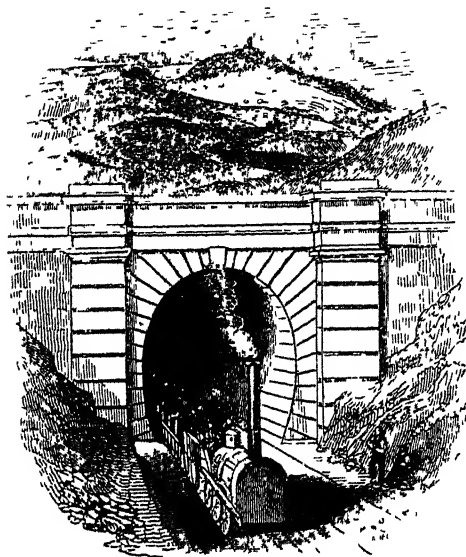
(1) That carriages can be propelled by steam on common roads at an average rate of ten miles an hour (2) That at this rate they have conveyed upwards of fourteen passengers. (3) That their weight, including engine, fuel, water and attendants, may be under three tons. (4) That they can ascend and descend hills of considerable inclination with facility and ease. (5) That they are perfectly safe for passengers (6) That they are not (or need not be if properly constructed) nuisances to the public (7) That they will become a speedier and cheaper mode of conveyance than carriages drawn by horses. (8) That as they admit of greater breadth of tire than other carriages, and as the roads are not acted on so injuriously as by the feet of horses in common draught, such carriages will cause less wear of roads than coaches drawn by horses. (9) That rates of toll have been imposed on steam-carriages which would prohibit their being used on several lines of roads were such charges permitted to remain unaltered.

It is surprising with this impetus that the early motor car did not progress, and it could only have been from the poor roads and from the Turnpike Trusts objecting to such weight on their inadequate surfaces. There are many records left of the attempts and failures. There was William Mann's Locomotive Machine for the Road in 1830, with reservoirs of compressed air and the propelling power behind the back wheels; there was Adcock's Steam Coach, a print of which is in the London Museum. There was Gurney's Steam Coach in Hyde Park in 1827, there was Gibbs' Steam Drag, which

was a tractor drawing a coach and steered by a draw-bar, and there were many others. If it had not seemed easier to lay rails than to lay substantial roads the whole history of the next hundred years might have been altered—for methods of transit, perhaps more than anything else, make the man and the nation.



ENTER THE LOCOMOTIVE



The opening of the Stockton and Darlington line in 1825 is considered the first important landmark in the development of the Steam Rail-Way, but for many years before there had been numberless experiments. Now that trucks could be propelled by the adhesion of a smooth wheel to a smooth rail, they were ready for some steam engine that could drag them along. All that remained was to find a practical means of generating sufficient steam power in a locomotive engine. Two things were essential—enough draught to keep up a hot fire, and a large heating surface in a small compass on which to apply it. The escape-steam blast provided the draught, the tubular boiler provided the heating surface. When George Stephenson combined the two in the Rocket of 1829, for the

Liverpool and Manchester Railway, the railroad locomotive was complete. The essentials were there.

But, although from a mechanical point of view progress came step by step with occasional surprises, the locomotive, unlike many other discoveries, burst, rather than crept or stole, upon the world. It was an obvious thing that everybody could see, and it accomplished in front of everybody unheard of wonders 'Every day', Smiles wrote, many years later, 'the thing, great and momentous, developed.'

George Stephenson, who had seriously thought of the New World for his labours, decided to settle in England, and, as he perfected one of the most important inventions in history, cut out clothes for the pitmen and taught their wives.

Though the mass of the people might be sceptical, there were many who realized the importance of what was happening. Early in the century William James dreamt of a general railway company with a capital of a million pounds, and later argued with George Stephenson that 20 or 30 miles per hour would come instead of George's 8 or 10. Dr. James Anderson and Mr Thomas, of Denton, were enthusiasts as early as 1800. In 1821 Thomas Gray published his 'Observations on a General Iron Railway or Land Steam Conveyance', and flooded mayors, members of parliament and all manner of important people with petitions on the subject. By that year there were many tramways and railways scattered all over England, Wales and Scotland.

There had been many experimenters, great and small. There was Matthew Murray's engine of 1812, illustrated in Monsieur Dollfus's book. There was a booklet in 1810 by George Medhurst, the inventor of 'A new method of conveying Letters and Goods with great certainty and rapidity by compressed air'. Most important of all was Trevithick, whose engine, 'Catch me Who Can', was moving on rails round a circular track at Euston in 1808. In a last letter to a

friend, he wrote, 'I have been branded with follies and madness for attempting what the world calls impossibilities—but the great honour of many a useful subject can never be taken from me.' In Dendy Marshall's chronological list of locomotives, No. 1 is Trevithick's unnamed locomotive of 1804, built at Penydarreh—Trevithick's 'Catch Me Who Can' is No. 3. 'Puffing Bill', built by Headley in 1815, is No. 12. George Stephenson's 'Blucher', built for Kellingworth in 1814, is No. 20, and 'The Rocket', of 1829, probably the first engine with a tubular boiler, is only No. 45. Trevithick was fortunate also in his artistic entourage. His business card had a charming little engine engraved on it, and his circular Railway at Euston was delightfully drawn by Rowlandson.

The money required for the Stockton and Darlington Railway needed a considerable amount of faith, and the faith was there, not so much in the undertaking as in the character of its friend and advocate, Edward Pease. Leading men of the district ridiculed or opposed the idea, and even the merchants of Stockton, who had so much to gain, did not take up twenty shares. It was the support of the other two Quaker families, the Backhouses and the Richards, and other merchants of the Society of Friends that enabled Pease to carry out his idea. The people in the district aptly called it the Quaker's line.

Lord Eldon was 'sorry to find the intelligent people of the north country gone mad on the subject of railways,' and suggested that the railway companies should not be given possession of the soil, but that their lines should run over it with merely a right of way.

It must be remembered that it was a railway almost entirely for coal trucks, there was often but one closed carriage, usually for the directors, in a long train of trucks. At the opening day a horseman with a flag preceded the train. If there were people in the trucks it was merely from a spirit of adventure. The Act had provided that

anyone could use the railway so long as they complied with the Company's bye-laws; and for a time when it was not required by the locomotive for coal traffic, the coach proprietors ran their horse coaches on it with flanged wheels on their coaches and only one horse. Sometimes there was horse traction, sometimes steam, and at one time the balance seemed in favour of the horses. Even as late as 1861 there were horses and engines working alternately on the same lines.

Yet the Stockton and Darlington Railway did five important things: it

(1) established the practicability of substituting locomotive for horse traction on railways; (2) introduced the provision of waggons by the railway company, instead of leaving these to be found by carriers and traders; (3) proved that railways were as well adapted to the transport of passengers as they were to the carriage of goods; (4) showed by actual experience that the idea of a common user of railways was impracticable, and (5) prepared the way for the eventual recognition, even by Parliament itself, of the principle that transport on a line of railway operated by locomotives must, in the nature of things, be the monopoly of the owning and responsible railway company.

The Stockton and Darlington Railway, however, did not meet with universal approval. Gray's 'Observations' had produced some effect, but not as much as he had hoped. There is a remarkably large list of small railways existing before 1821, but there was no very sudden spurt directly afterwards. In 1822 the important Colliery at Hetton, in the County of Durham, started work under the direction of Mr. Robert Stephenson, with five of Mr. George Stephenson's patent travelling engines, and we get an excellent idea of the manner of working from the 'Prospective View'. The next year a magazine, in an illustrated article, proposed 'to supersede entirely the necessity for horse power in all Public Wagons, Stage and Mail Coaches, Post-chaises, etc., and to employ the most potent agency of steam'.

On the other hand, there were those who still did not believe that

smooth wheels would grip the rails permanently and satisfactorily, but that when subject to strain they would turn round and round without the train moving forward. Though in 1825 the *Quarterly Review* published an article on the advantages of rails over canals, it stated in another issue of the same year that 'the gross exaggeration of the powers of the locomotive steam engine may delude for a time, but must end in the mortification of those concerned. We scout the idea of a general railroad as altogether impracticable.'

'Can anything', the *Quarterly Review* writes, also in 1825, 'be more palpably ridiculous than the prospect held out of locomotives travelling twice as fast as stage coaches. We should as soon expect the people of Woolwich to suffer themselves to be fired off upon one of Congreve's Rockets as trust themselves to the mercy of such a machine going at such a rate. We will back Old Father Thames against the Greenwich Railway for any sum.

'We think that Parliament will in all Railways it may sanction limit the speed to eight miles an hour, which is as great as can be ventured on with safety'

'As to those persons', continues the *Quarterly Review*, 'who speculate on making railways generally throughout the kingdom, and superseding all the canals, all the wagons, mails, and stage-coaches, post-chaises, and, in short, every other mode of conveyance, by land and by water, we deem them and their visionary schemes unworthy of notice'

Then there came 'The Rocket', gaily painted in yellow, black, and white, for Robert Stephenson, on his return to England in 1827, wished to reduce the ugliness of our travelling engine. There could hardly have been a more appropriate name for what will always be regarded as the first locomotive. It came like a firework into a country still for the most part determined not to see anything in so revolutionary an idea. To the general public it was a startling and unexpected novelty—only the initiated greeted its arrival as a natural development—and before long other 'rockets' followed.

It must be remembered, however, that, though 'The Rocket' supplied a type of engine capable of expence and indefinite usefulness, and to a great extent banished the horse from the railways, the

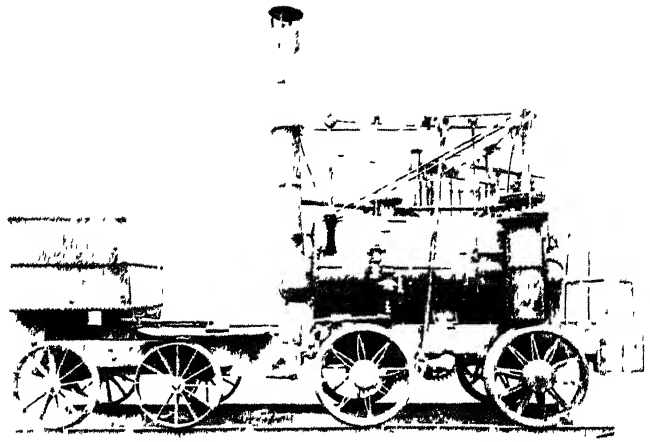
stationary engine, pulling the trains by ropes, was still there, and fifteen miles in twenty-five minutes, achieved by The Northumbrian, after Mr. Huskisson's fatal accident, was considered a very great achievement; to carry all kinds of goods, cattle and passengers at a velocity of sixty miles an hour, as a Booklet of 1827 had suggested, was still considered 'the pure effulgence of an untaught mind and of limited talent'.

Between the Rainhill Trials of 1829 and the passing of the London to Birmingham Railway Act of 1833 the general atmosphere had distinctly changed. By the middle of 1831 seven out of the first ninety locomotives had gone to America, Stephenson's being delivered in 1828. The Liverpool and Manchester was continuing to carry passengers; and the London to Birmingham Railway had found money after a long Parliamentary struggle for a lengthy series of engineering feats: it could not, like its predecessors, be considered as a 'local' line, it had penetrated into the capital of England. It was a line for passengers as well as goods and, though coaches were still run as a rival mode of transit, the Railway had undoubted advantages. As far as Goods Traffic was concerned it was so far from being exclusively a Coal Railway that when coal was carried it was sometimes sheeted down to hide it from view. The railways were now carriers, not, like the canals and early railways, leviers of tolls. They did not differentiate in the value of goods, 2d. per ton per mile for potatoes and 4d. per ton per mile for onions. they carried fancy goods, meat, dairy produce, even manure, bullion and soldiers with a new dignity.

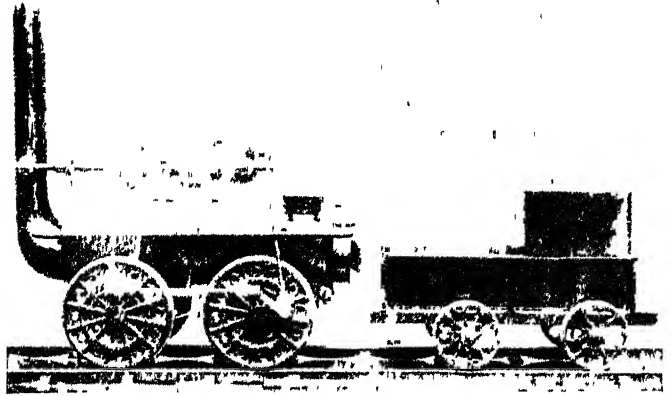
The London and Birmingham Railway prided itself on the workers it used for its construction.

There is one feature which strikingly distinguishes the construction of railways from that of canals, and this is the employment of the surrounding agricultural population. When the reader is informed that, for nearly three

- (a) *'Puffing Bill', the oldest locomotive in existence, and one of the sensations of the age*

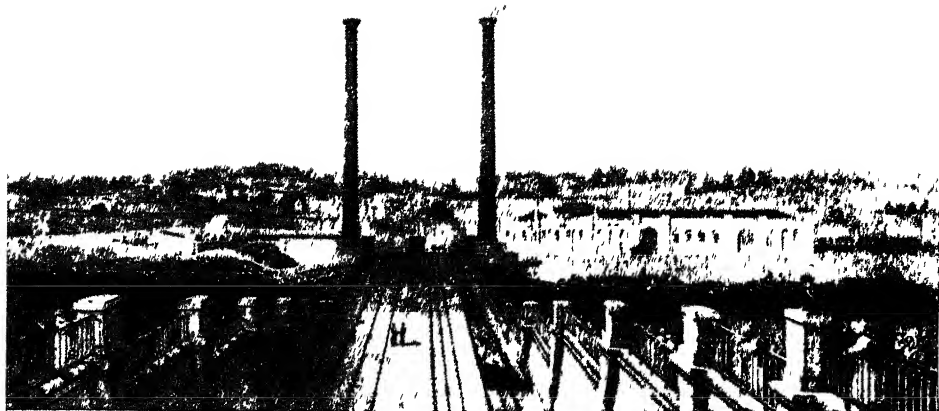


- (b) *'Locomotion', the first engine built for The Stockton and Darlington Railway, and a considerable achievement at the time*



- (c) *'The Rocket', the successful locomotive in The Rainhill Competition of 1829 on The Liverpool and Manchester Railway, and a landmark in the history of the steam engine*





6 *The Engine Houses at Camden Town, which contained the stationary engines that drew the train up the first gradient from Euston Square. In approaching the terminus the trains merely slid down the gentle gradient, checked by brakes.*



7 *The Birmingham Railway at Chalk Farm Bridge. In prints such as this the public obviously pictured the railways going along something very similar to the existing roads. The twin towers of the engine houses can be seen on the right.*

years, from fifteen to twenty thousand men were engaged on this work, taken almost invariably from the adjacent towns and villages,—and that, in actual labour, nearly four millions have been expended among the local population,—he will have some idea how this would influence pauperism and the poor rates; whereas, in the making of canals, it was the general custom to employ gangs of hands, who travelled from one place to another, and did nothing else. These banditti, known in some parts of England by the name of ‘Navies’ or ‘Navigators’, and in others by that of ‘Bankers’, were generally the terror of the surrounding country; and are as complete a class by themselves as the gipsies. Possessed of all the daring recklessness of the smuggler, without any of his redeeming qualities, their ferocious behaviour can only be equalled by the brutality of their language. It may be truly said, their hand is against every man, and, before they have been long located, every man’s hand is against them. From being long known to each other, they in general act in concert, and put at defiance any local constabulary force; consequently, crimes of the most atrocious character were common,—and robbery, without an attempt at concealment, was an everyday occurrence; but they were so thinly scattered over the London and Birmingham Railway, that their depredations partook generally of a deceptive character, and acts of open violence were rare.

The Railway prophecy of *The Mechanic’s Magazine* of 1824 was beginning to come true. ‘There is no branch of agriculture, no branch of commerce, no branch of arts but would partake of its endless prosperity’. The Railways, moreover, were increasingly interested in all the different aspects, manufactures, etc., of the various towns and counties that they passed through. The country helped them and they helped the country.

In such books as *Osborne’s Guide* we get the full flavour of the pride of the new London and Birmingham Railway—the ‘Magic Celerity’ with which the different scenes are changed, the wonder of it all, the capabilities of endless development, even in the direction of ‘Electro-Magnetism’. Nor are human feelings forgotten.

There is almost always some drawback, some poison mixed in the cup of happiness; and in the present instance the human heart will find all its feelings of delight and admiration suddenly crushed by the sight of one of those modern prisonlike workhouses, which stands so conspicuously in the distance to the right of the line. Surely this great heavy-looking building, suggesting as it

must to every benevolent mind so many painful associations, might have been built out of sight; its present position seems as though it had been selected out of a pure spirit of bravado, or recklessness of public feeling.

Osborne's Guide covers a wide range, from the invention of the first steamboat to the possibilities of the invasion of England, and for the convenience of passengers gives a list of the places of amusement and the coaches and omnibuses that join up with the Railways. Perhaps, however, the passages most typical of the period are to be found in Britton's text, which accompanies Bourne's charming lithographs; he shows with clearness and conviction that Providence, Great Britain and the Railways are closely collaborating in man's happiness.

In the years preceding and following the opening of the London and Birmingham there was much railway activity, and England became the pioneer of railway lines. There was an enormous amount of railway literature and of beautifully executed prints. We can see the coal trucks crowded with people and the flags waving in 1831 on the Glasgow to Garnkirk Line; or there are those attractive lithographs of the Irish Dublin to Kingstown Railway, the first railway in Ireland. There are amusing accounts of Irish Railway directors who served on twenty different boards, many of the concerns being rivals to each other. The railway mania began to infect the whole nation.

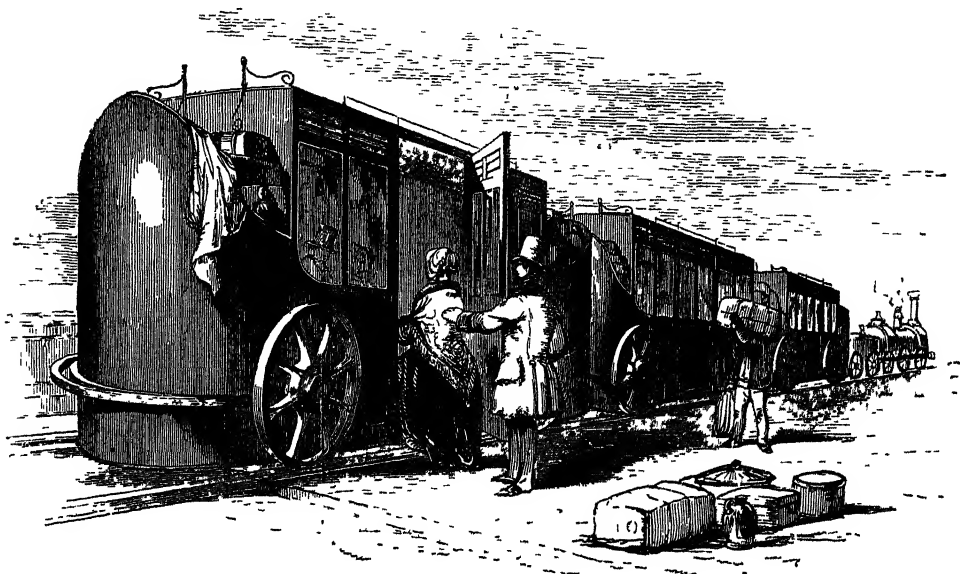
Just as the aeroplane has had to establish its supremacy in the air against the competition of the airship, so even after the railway engine, as we know it, had become firmly established there were several scientific fancies. The most important was what was known as the Atmospheric System. It was used on several different lines, and was only abandoned after many years during which there were great hopes of its economic success. It is best described by Lewin in his *Early British Railways*:

The general principle was that trains should be propelled forward by means of the atmospheric pressure acting on a piston working in a tube from which the air had been pumped by stationary engines situated at intervals along the line of route. The piston was connected to the carriages by means of a rod working through a slot in the top of the tube, and the chief difficulty was to invent a form of valve which would open immediately in front of and close after the passage of the rod, and thus again render the tube air-tight for the passing of the next train.

It will be seen how simple and economical the atmospheric system appeared and how comparatively small the difficulties seemed that had to be overcome. The fact that it was tried at many places, and for so long, showed both the inventor's and the public's belief in it. It made great strides near London as well as in the Provinces; many believed that it would greatly reduce expense and lessen danger. An Act of Parliament was passed authorizing an atmospheric railway from Croydon to Epsom, but the atmospheric system was only worked from Croydon to Forest Hill. As happened in the West Country and elsewhere, rats ate the grease which it was imperative to keep on the leather valves, connecting the air pressure in the tubes with the train, and the system was very dependent on the weather. Nevertheless, three important Engine Houses for pumping out the air in the tubes were erected at West Croydon, South Norwood and at the Dartmouth Arms, Forest Hill.

Other new inventions were being constantly suggested, not only in the scientific world but in the pictorial papers. There were Kollman's engines and carriages with no flanges to the wheels, but which were kept on the rails by means of horizontal wheels fixed to movable angles and run on a supplementary central rail, and there was Major Parley's suggestion, which did not require a central rail at all. There was Mr. Parkins's apparatus by which the train was run by a stationary engine hauling a rope wound round a large wheel on the carriage. The age was fertile in ideas, courageous rather than practical.

A little while before a contemporary writer had said that the coaches were far more punctual than the uncertain trains. But that was all over now: we have cartoons of the doomed horses watching



Major Parley's safety railway carriages, with flangeless wheels kept on the rails by smaller horizontal wheels

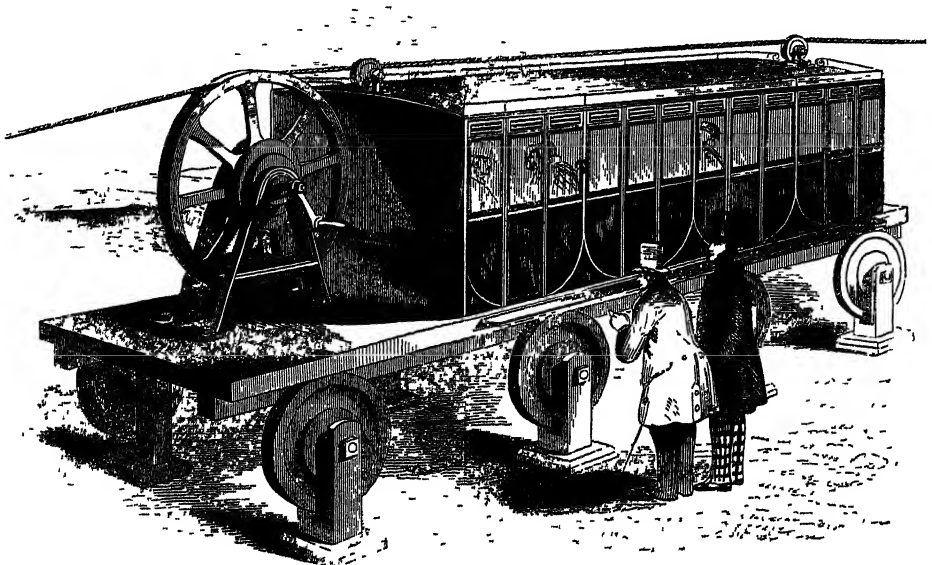
the steam trains that were replacing them. The number of horses employed on each coach dwindled from four to three, to two, and then to one. At last there was only left the horse-bus from the railway station. Coach-bodies were used as summer houses. Horses continued to be used on canals, for canals never made full use of steam; but the Manchester and Leeds line lowered the Rochdale Canal shares from 150s. to 40s. The fares on the London and Birmingham coaches were 30s. outside and 50s. in; after the opening of the railway they were 13s. outside and 20s. in. In those months the number of daily coaches on the road dropped from twenty-two to four. The Bear Inn at Maidenhead, one of the most popular houses at which to feed before continuing by coach, lost its glory. It was even suggested that the canals should be drained and

ENTER THE LOCOMOTIVE

used as rail tracks; the Government began to see in the railways a monopoly even more dangerous than had existed in canals.

For many years and in many respects the railway carriages remained like coaches. The guards rode outside, as on the coaches, and the luggage was usually carried outside. The term 'Posting-carriage' was used instead of saloon carriage before the terms first, second and third became popular, and Queen Adelaide's railway carriage was built by a well-known coach-builder of Gough Street in London. One of the first railway carriages, the 'Experiment', had a 'boot' at the back for the guard, but at both ends, so that the carriage need not be turned round.

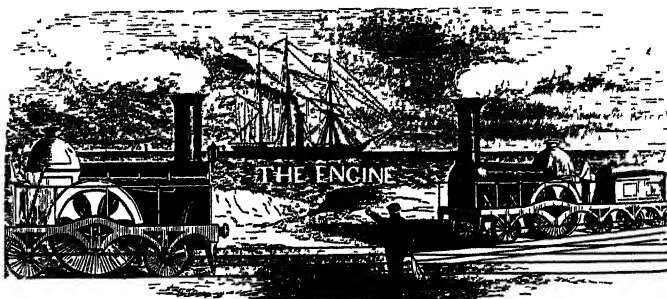
The fear increased that the steam coach would not confine itself to running on rails. There were many who dreaded that the steam engine would have as free use of the roads as our modern motor car, and it was sometimes expressly provided that if a



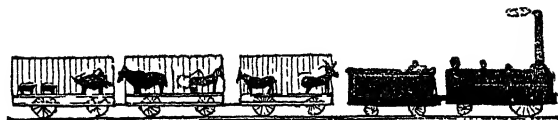
Mr Parkins's motive apparatus showing also the small guiding wheels and the winch for giving by hand slow motion to the train

company owned engines these should only run on lines. People had nightmares of being pursued over the countryside—

One dark night in the year 1784, the venerable Vicar of Redruth, in Cornwall, was taking a quiet walk in a lonely lane leading to his church. Suddenly he heard an unearthly noise, and to his horror, he saw approaching him an indescribable creature of legs, arms, and wheels, whose body appeared to be glowing with internal fire, and whose rapid gasps for breath seemed to denote a fierce struggle for existence. The vicar's cries for help brought to his assistance a gentleman of the name of Murdoch, who was able to assure him that this terrible apparition was not an incarnation, or a messenger of the Evil One, but only a runaway engine that had escaped from control.



THE EFFECT ON THE LOWER AND UPPER CLASSES



'Trained Animals'

THE LOWER CLASSES

It is easy a hundred years later to invent an atmosphere that suggests the social reactions to the first railways. But no later ideas of ours can equal the first-hand evidence of contemporaries. It must be remembered that there was no *general* reaction, ideas on the subject were very different. Classes in those days were very different too, the upper and lower were sharply divided, the cultured middle class was only just beginning to play an important part in the life of the community. Even within these classes opinions were sharply divided, but in the popular literature of the time we can get some idea of what was thought and felt.

A 'New Song of the Times' expresses a strong, and no doubt widespread, opinion amongst what was then called the lower classes:

Come all you English poor folks
And listen to my song.
An alteration must take place,
And that before 'tis long.

The steam has great destruction made
On land from shore to shore.
And the Union Houses long have been
The terror of the poor.

THE RAILWAY AGE

CHORUS: England must confess we're in a mess,
Sad is our Nation's lot,
The Union Houses must come down,
And the railroad go to pot.

Not more than fifty years ago
The truth you must allow,
Our parents then were able
To keep a pig and cow;

The little farmers then could live
And people did not dream,
Instead of cattle every sort
Of work should go by steam.

Where'er you go you'll find it so
In country and in town,
The people say the Union Houses
Shortly must come down.

They've been tried and with no answer,
They are unjust and cruel.
Would Nosey and Prince Albert
Like to live on water gruel?

When Albert first to England came
From Germany, alack!
He had neither breeches, coat, or shoes,
Or shirt upon his back.

But now he houses has and lands,
And a great big Flemish farm,
And a blooming little wife to roll
And cuddle in his arms.

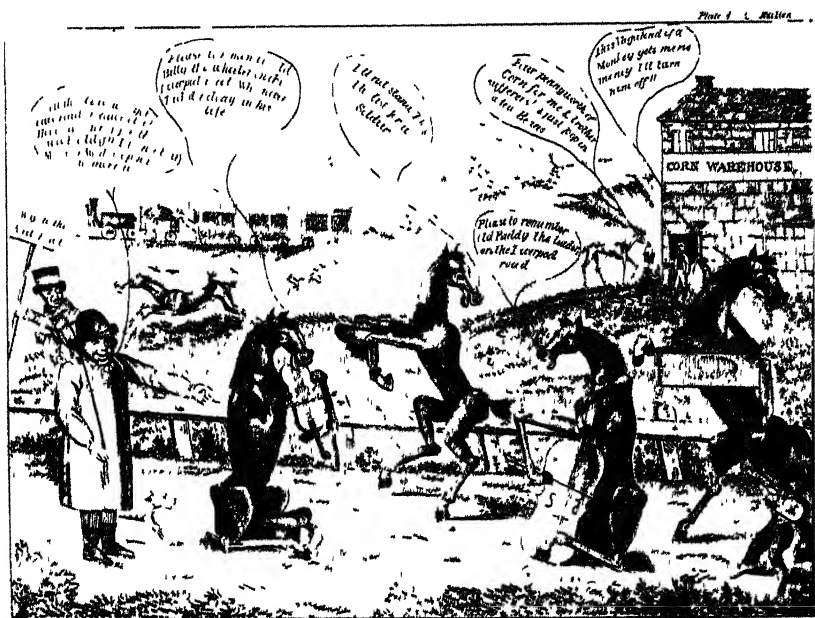
But the time it is fast coming, boys,
And come it will we'll see
The railroads and the Union Houses
At an end will be.

The poor shall live in happiness,
Contentment will be seen,
Manual labour, liberty,
And nothing done by steam.



FIG. 100. STEAM-DRIVEN VEHICLES ON THE ROAD.

8 Steam-driven vehicles careering along the roads were a familiar dream and sometimes a nightmare. There are many early prints of these chariots (projected or actual), and but for the primitive character of road surfaces, automobiles might have preceded railways.

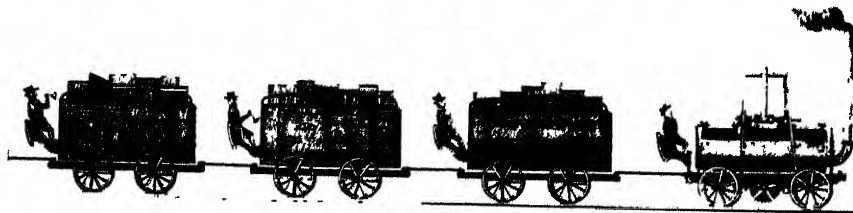
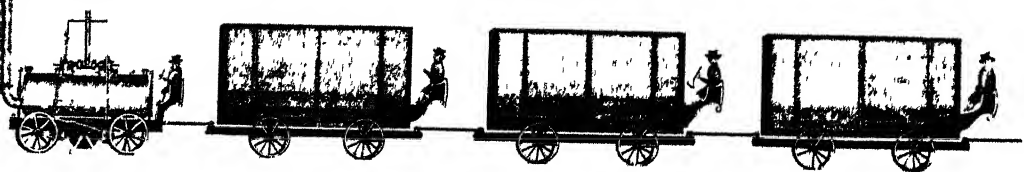
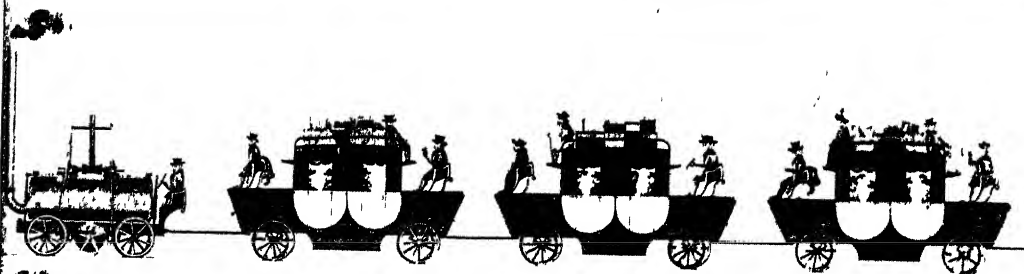


THE HORSES OF THE ROAD.

THE HORSES OF THE ROAD.

HORSES REDUCED TO BEGGARY BY THE NEW RAIL-ROADS. IS STEAM PROGRESSED THERE WAS CONSIDERABLE SYMPATHY WITH THE OUT-OF-WORK HORSES AND FOR THOSE WHO DREW THEIR LIVELIHOOD FROM HORSE-TRAFFIC. IT WAS THOUGHT THAT HORSES WOULD, BEFORE LONG, BE A THING OF THE PAST.

9 Horses reduced to beggary by the new rail-roads. As steam progressed there was considerable sympathy with the out-of-work horses and for those who drew their livelihood from horse-traffic. It was thought that horses would, before long, be a thing of the past.



10 It was anticipated from first experiments that the wheels of the steam driven engines would slide round and round on the rails. Several inventors applied themselves to cogwheels, such as are still used on the funicular railways up the mountains in Switzerland. The design of the railway carriage at this time (1823) had not progressed very far.

THE EFFECT ON THE LOWER AND UPPER CLASSES

It must be remembered that at first railways were considered chiefly as a means of conveying goods, and the fact that it might soon be easy and cheap to take goods long distances was naturally disturbing to local farming and to local industry. Anything might happen from such a revolution in transport, and it was seriously suggested that nothing further in the way of transport was required. As usual, every sort of fallacious idea was put forward by those who had a vested interest in the interchange of goods remaining local; many of the more ignorant of the country inhabitants genuinely believed that the hens would refrain from laying, and for human beings there was always the danger of being run over. The race of horses would cease to exist, and oats and hay be no more marketable. In *Punch* there was an amusing picture of the countryman on his horse-cart having to tow the railways, for was not the countryman and his horse the basis of all industry?

In 1842 the danger to the poor of machinery in general was foreseen by *Punch*, though *Punch* was able to look ahead:

We put this question to Sir Robert Peel If all labour done by man were suddenly performed by machine power, and that power in the possession of some thousand individuals,—what would be the cry of the rest of the race? Would not the shout be ‘Share, share?’

The steam-engine, despite of themselves, must and will carry statesmen back to first principles. As it is, machinery is a fiend to the poor; the time will come when it will be as a beneficent angel.

It was not long before the beneficent angel began to shower blessings in many unexpected directions—especially in matters of trade. Not the least was the growth of the commercial traveller. To travel quickly and easily meant that samples could be taken about instead of the actual goods; as the general flow of trade increased, the wheels of commerce turned more freely.

In 1844 many broad-minded people laughed at the absurd air of superiority of the upper classes, in their use of the railways.

THE RAILWAY AGE

THE RAILWAY MORAL CLASS BOOK by the Bishop of London'



MORALS FOR THE FIRST CLASS

The morals prescribed for this Class are the same on all days of the week. An act which is moral on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, is moral also on Sundays. The reason is, that this Class employs the best tailors, eats the best food, drinks the best wines, in short, lives the best; and lastly and especially, pays the highest fare of all the three Classes. Moreover, being accustomed to amuse themselves all the six days of the week, it would be cruel to deprive them of recreation on the seventh; and having little or no business on any day, they have as much business to travel on Sunday as on any other.



MORALS FOR THE SECOND CLASS

It is not, strictly speaking, quite proper for persons of this Class to do the same thing every day; so that a perfect system of morality would prohibit them from Sunday travelling. Many of them go to Holborn and the City for their clothes, dine upon two courses, and cannot afford Hock, Claret, and Champagne, or even good Port and Sherry. However, on the whole, they are pretty respectable. Thus, for the transgression, the rigid rule of right may be relaxed, and they may be permitted to travel on Sundays, but they are to understand this permission as a sufferance merely, and their conduct in availing themselves of it is by no means to be approved of.



MORALS FOR THE THIRD CLASS

For this Class of people to travel on Sundays is a heinous crime. They are meanly clad, and live upon a coarse kind of food. Toil and hardship are their portion during the week, and enjoyment on the Sunday would make them discontented with their lot. The Third Class of railway passengers is formed of the inferior classes, and not being respectable, no respect whatever should be shown to its inclinations. Its fare is nothing like an atonement for the crime in question. The Legislature, therefore, has acted very improperly in compelling Sunday trains to run Third Class carriages; and the statute, if possible, should be evaded.

Yet in spite of the reaction of the railway speculation of 1847 and 1848, the railways were still very great employers of labour. They

THE EFFECT ON THE LOWER AND UPPER CLASSES

usually employed all local labour and often drew in outside labour as well. It is estimated that in 1848 there were two hundred thousand navvies on railway construction, and although the word 'navvy' is derived from men who worked on the land navigations, canals were never likely to have employed so many on new enterprises. Even as early as 1837, twelve thousand men were employed on the works for the London and Brighton Line alone, and the Bishop of Chichester appointed three clergymen for their spiritual welfare, the Company contributing £100 to this 'excellent work'.

With such obvious facts in front of them it is clear that many of the 'lower orders' must have seen good as well as evil in the railways, and there is also a Ballad to support this view.

The opening of the Oxford Railway inspired—

A PENNYWORTH OF FUN

If you will listen to my song
I'll not detain you long.
On the 1st of May the folks did throng
To view the Oxford Railway.
And to have a ride—what a treat,
Father, mother, son, and daughter
Along the line like one o'clock,
By fire, steam, and water.

CHORUS. Rifum, Tifum, mirth and fun,
Don't you wonder how it's done,
Carriages without horses run
On the Hampton and Oxford Railway.

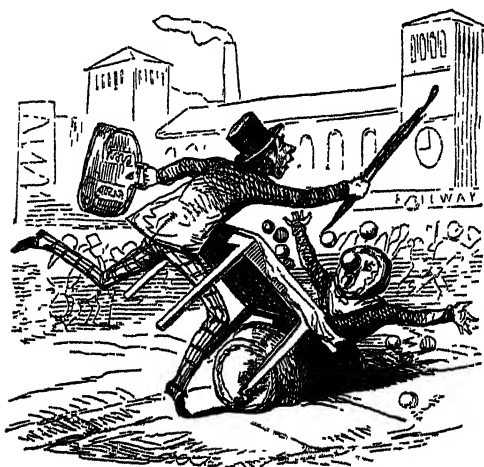
From village, and from the towns,
The gents and ladies flocked around.
And music through the air did sound,
Along the Oxford Railway.
There was bakers, butchers, nailers too,
Lots of gentlemen in blue,
And all did strive to get a view
Along the Oxford Railway.

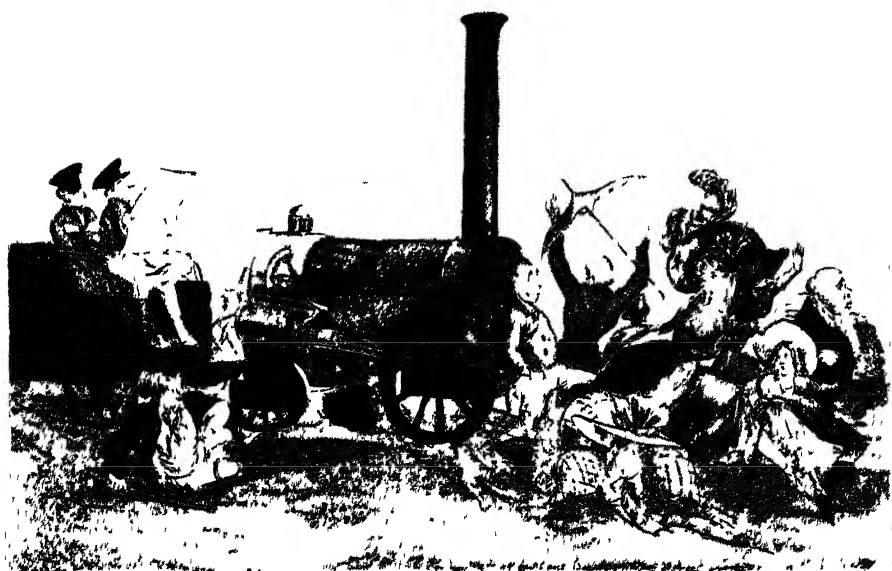
THE RAILWAY AGE

An old woman peeping at the line
Said I wouldn't care a farthing,
But they destroyed my cottage fine
And cut away my garden,
Where I so many years did dwell
Growing lots of cabbages and potatoes,
But worse than all my daughter Nell
Went off with the navigators.

In Alcester lives a bonny lass,
I think they call her Nancy,
Says she a trip upon the line
Greatly would please my fancy.
I will ride by steam and work by steam,
By steam I'll on be hurried,
And when I can a husband find
By steam I will be married.

And when the line is finished at both ends,
You may send your cocks and hens
And go and visit all your friends,
Your ducks and turkeys, pigs and geese,
To any part wherever you please—
You may also send your butter and eggs,
And they can ride who've got no legs
By the Hampton and Oxford Railway.





The Measures of the Road Road - London the Railway



The Measures of the Road Road - London the Railway

11 and 12 It was inevitable that such a revolutionary invention as the steam engine, especially when it was realized that it was going to move about the earth and not merely remain stationary, should produce fear as well as wonder in men's minds, and there were many half-serious, half-humorous caricatures. The engine in the first plate is probably *The Northumbrian*, and the carriage in the second the *State Carriage* used by the Duke of Wellington at the opening of *The Liverpool and Manchester Railway*.



15 Whether the new steam engines kept to the road or ran on rails, it was felt that they would disorganize society mentally and physically, and I. R. Cruickshank made one of his most striking symbolic drawings on this theme

THE UPPER CLASSES

The views of the upper classes were not expressed in Ballads, there were more literary and more influential ways of showing their approval and disapproval. 'Our Midland plains have never lost their familiar expression and conservative picture for me', George Eliot writes, 'yet at every other mile, since I first looked at them, some sign of world-wide change, some new direction of human labour, has brought itself into what one may call the speech of the landscape. There comes a crowd of burly navvies with pickaxes and barrows and, while hardly a wrinkle is made in the fading mother's face or a new curve of health in the blooming girl's, the hills are cut through, or the breaches between them spanned.'

Vincent Leigh Hunt, from Croydon in 1840, writes a more prosaic but more intimate account to his Dear Papa and Mamma:

The railway is most glorious and delightful travelling. I went in the first class, being the farthest from the engine, although contrary to Mr. Hunter's wishes, as it was sixpence more than the other, yet only 1s. and 9d. Far superior in comfort, and built like a coach. Five of them one behind another. It started at the rate of the trotting of a horse, then faster and faster, until it goes at the rate of 10 miles and a half in 22 minutes, over the top of houses up to the first station, then hills on each side . . . After having gone by the Railway, the Omnibus seems mere child's play.

By far the most graceful account of a journey by railway is given by Miss Fanny Kemble in a letter dated 26th August 1830:

'A common sheet of paper is enough for love', she writes, 'but a foolscap extra can alone contain a railroad and my ecstasies.' 'I will give you an account of yesterday's excursion', Miss Kemble continues:

A party of sixteen persons was ushered into a large court-yard, where, under cover, stood several carriages of a peculiar construction, one of which was prepared for our reception. It was a long-bodied vehicle with seats placed across it back to back; the one we were in had six of these benches, and it was a sort of uncovered char-a-banc. The wheels were placed upon two iron bands, which

formed the road, and to which they are fitted, being so constructed as to slide along without any danger of hitching or becoming displaced, on the same principle as a thing sliding on a concave groove. The carriage was set in motion by a mere push and, having received this impetus, rolled with us down an inclined plane into a tunnel, which forms the entrance to the railroad. This tunnel is four hundred yards long (I believe), and will be lighted by gas. At the end of it we emerged from darkness and, the ground becoming level, we stopped. There is another tunnel parallel with this only much wider and longer, for it extends from the place we had now reached and where the steam carriages start, and which is quite out of Liverpool, the whole way under the town to the docks. This tunnel is for waggons and other heavy carriages; and as the engines which are to draw the trains along the railroad do not enter these tunnels, there is a large building at this entrance which is to be inhabited by steam engines of a stationary turn of mind, and different constitution from the travelling ones, which are to propel the trains through the tunnels to the terminus in the town, without going out of their houses themselves. The length of the tunnel, parallel to the one we passed through, is (I believe) two thousand two hundred yards. I wonder if you are understanding one word I am saying all this while.

We were introduced to the little engine which was to drag us along the rails. She (for they make these curious little fire horses all mares) consisted of a boiler, a stove, a platform, a bench, and behind the bench a barrel containing enough water to prevent her being thirsty for fifteen miles,—the whole machine not bigger than a common fire engine. She goes upon two wheels, which are her feet, and are moved by bright steel legs called pistons; these are propelled by steam, and in proportion as more steam is applied to the upper extremities (the hip-joints, I suppose) of these pistons, the faster they move the wheels; and when it is desirable to diminish the speed the steam, which unless suffered to escape, would burst the boiler, evaporates through a safety valve into the air. The reins, bit and bridle of this wonderful beast is a small steel handle, which applies or withdraws the steam from its legs or pistons, so that a child might manage it. The coals, which are its oats, were under the bench, and there was a small glass tube affixed to the boiler with water in it, which indicates by its fullness or emptiness when the creature wants water, which is immediately conveyed to it from its reservoirs. There is a chimney to the stove, but as they burn coke there is none of the dreadful black smoke which accompanies the progress of a steam vessel. This snorting little animal, which I felt rather inclined to pat, was then harnessed to our carriage, and Mr. Stephenson having taken me on the bench of the engine with him, we started at about ten miles an hour.

The steam horse, being ill adapted for going up and down hill, the road was kept at a certain level, and appeared sometimes to sink below the surface of the

earth and sometimes to rise above it. Almost at starting it was cut through the solid rock which formed a wall on either side of it, about sixty feet high. You can't imagine how strange it seemed to be journeying on this, without any visible cause of progress other than the magical machine with its flying white breath and rhythmical, unvarying pace, between these rocky walls, which are already clothed with moss and ferns and grasses; and, when I reflected that these great masses of stone had been cut asunder to allow our passage thus far below the surface of the earth, I felt as if no fairy tale was ever half so wonderful as what I saw. Bridges were thrown from side to side across the top of these cliffs, and the people looking down upon us from them seemed like pigmies standing in the sky.

I must be more concise, though, or I shall want room. . . We had now come fifteen miles, and stopped where the road traversed a wide and deep valley. Stephenson made me alight, and led me down to the bottom of this ravine, over which, in order to keep his road level, he has thrown a magnificent viaduct of nine arches, one of which is 70 feet high, through which we saw the whole of this beautiful little valley. It was lovely and wonderful beyond all words. . . He explained to me the whole construction of the steam-engine, and said he could soon make a famous engineer of me, which, considering the wonderful things he has achieved, I dare not say is impossible. His way of explaining himself is peculiar, but very striking, and I understood without difficulty all that he said to me.

We then rejoined the rest of the party, and the engine having received its supply of water, the carriage was placed behind it, for it cannot turn, and was set off at its utmost speed, thirty-five miles an hour; swifter than a bird flies (for they tried the experiment with a snipe). You cannot conceive what that sensation of cutting the air was; the motion is as smooth as possible too. I could either have read or written; and, as it was, I stood up and with my bonnet off 'drank' the air before me . . .

The wind, which was strong, or perhaps the force of our own thrusting against it, absolutely weighed my eyelids down. When I closed my eyes this sensation of flying was quite delightful, and strange beyond description; yet strange as it was, I had a perfect sense of security, and not the slightest fear.

At one time, to exhibit the power of the engine, having met another steam-carriage which was unsupplied with water, Mr. Stephenson caused it to be fastened in front of ours; moreover, a waggon laden with timber was also chained to us, and thus propelling the idle steam engine and dragging the loaded waggon, which was beside it, and our own carriage full of people behind, this brave little she-dragon of ours flew on. Farther on she met three carts, which, being fastened in front of her, she pushed on before her without the

slightest delay or difficulty; when I add that this pretty little creature can run with equal facility either backwards or forwards, I believe I have given you an account of all her capacities.

Now for a word or two about the master of all these marvels, with whom I am most horribly in love. He is a man from fifty to fifty-five years of age, his face is fine, though careworn, and bears an expression of deep thoughtfulness, his mode of explaining his ideas is peculiar and very original, striking, and forcible; and, although his accent indicates strongly his north country birth, his language has not the slightest touch of vulgarity or coarseness. He has certainly turned my head.

Four years have sufficed to bring this great undertaking to an end. The railroad will be opened upon the fifteenth of next month. The Duke of Wellington is coming down to be present on the occasion and, I suppose that, with the thousands of spectators and the novelty of the spectacle, there will never have been a scene of more striking interest. The whole cost of the work (including the engines and carriages) will have been eight hundred and thirty thousand pounds, and it is already worth double that sum. The Directors have kindly offered us three places for the opening, which is a great favour, for people are bidding almost anything for a place, I understand.

The engine was to Thackeray also a thing of wonder and beauty:

Look yonder where the engines toil—
 These England's arms of conquest are,
 The trophies of her bloodless war:
 Brave weapons these.
 Victorious over wave and soil,
 With these she sails, she weaves, she tills,
 Pierces the everlasting hills,
 And spans the seas.

But there was once again the other side to the picture. In the *Creedy Papers* we find:

It is really flying, and it is impossible to divest yourself of the notion of instant death to all, upon the least accident happening. It gave me a headache which has not left me yet. Sefton is convinced that some damnable thing must come of it. . . Altogether I am very glad to have seen this miracle, and to have travelled in it . . . having done so, I am quite satisfied with my first achievement being my last.

The Poet Laureate, when he heard of the proposed railway from Kendal to Windermere, writes:

Is there no nook of English ground secure
From rash assault? Schemes of retirement sown
In youth, and 'mid the busy world kept pure
As when their earliest flowers of hope were blown,
Must perish; how can they this blight endure?
And must he, too, his old delights disown,
Who scorns a false, utilitarian lure
'Mid his paternal fields at random thrown?
Baffle the threat, bright scene, from Orrest-head,
Given to the pausing traveller's rapturous glance!
Plead for thy peace, thou beautiful romance
Of nature, and if human hearts be dead,
Speak, passing winds; ye torrents, with your strong
And constant voice, protest against the wrong!

Punch sarcastically remarks, in 1842, that at a recent railway explosion the stoker was the only person who escaped injury, as he was blown completely out of danger; and a little earlier has the following account of a Railway calamity:

The body of the unfortunate man who received such hard treatment from the tender has not been found. An inquest is to be held upon his legs, which were happily so jammed against the wall, as to be preserved entire; and they furnish sufficient 'remains' for the purpose of the coroner. The unhappy legs have left a widow and a young family.

The year before the following Recommendations for the Prevention of Railway Accidents had been suggested:

Having been particularly struck by the infernal smashes that have recently taken place on several railroad lines, and having been ourselves forcibly impressed by a tender, which it must be allowed was rather hard (coming in collision with ourselves) we have thought over the subject, and have now the following suggestions to offer.—

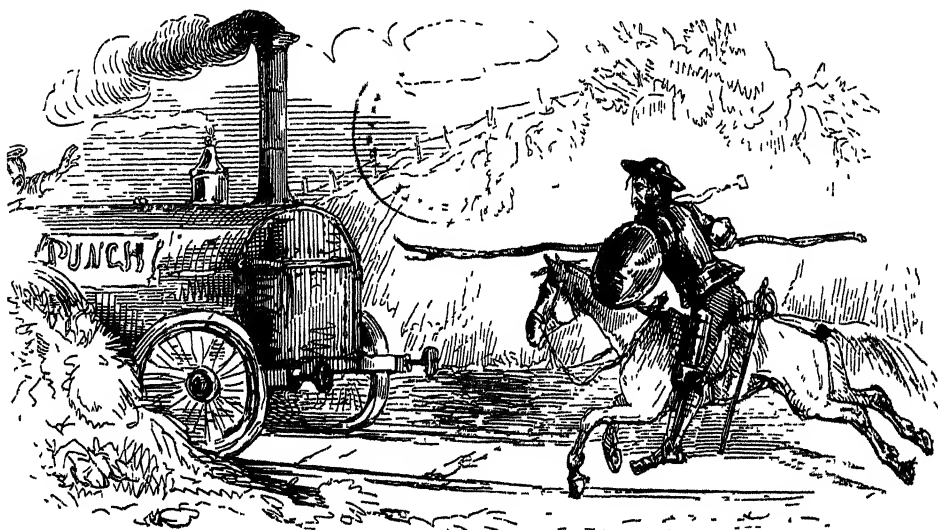
Behind each engine let there be second and third class carriages, so that, in the event of a smash, second and third class lives only would be sacrificed.

Let there be a van full of stokers before the first class carriages; for, as the directors appear to be liberal of the stokers' lives, it is presumed that every railway company has such a glut of them that they can be spared easily.

As some of the carriages are said to oscillate, from being too heavy at the top, let a few copies of 'Martinuzzi' be placed as ballast at the bottom.

In order that the softest possible lining may be given to the carriages, let the interior be covered with copies of Sibthorp's speeches as densely as possible

We have not yet been able to find a remedy for the remarkable practice which prevails in some railways of sending a passenger, like a bank-note, out in half, for better security



Sibthorp, M P , opposing the railways

Long after the Liverpool to Manchester passenger railway opened in 1830, there were many who hoped that this display of fireworks would die down; an England infested by these new-fangled moving machines, belching out smoke, was inconceivable, anything might result from them. It was all very well for coal owners in the North to find them useful—let them stay there in the ugly manufacturing districts. A gentleman would always travel by road.

At a preliminary consultation Brougham, the counsel for the Liverpool and Manchester Railway, told Stephenson that if he said so much about the speed of the engine before the Parliamentary Committee he would 'inevitably damn the whole thing and he

THE EFFECT ON THE LOWER AND UPPER CLASSES



The Railway Dragon, a nightmare, by Robert Crookshank

himself be regarded as a maniac fit for Bedlam.' A German doctor declared that it would be impossible for people to watch the trains pass along without going mad, and that 'unless hordings were erected the cow's milk would turn sour'. The agonies endured by the occupiers of some of the open trucks encouraged the coach proprietors to hope for a revival of road transport.

We can attribute a great deal, but by no means all, of the opposition to the vested interests that existed. There were the Canal owners—and they knew their weakness—drought in summer and ice in winter—there were the landed gentry that felt that their privacy and, indeed, their supremacy would be violated, and there were those who were against any innovation. These to a large extent were opposed by the great majority of traders, a rapidly increasing class, who welcomed the railways as a method of moving their various goods cheaply and quickly. Even some farmers found that they could deliver their milk over a wider area and get their cattle transported to market with less loss of weight; the close of the coaching days meant increased prosperity to them.

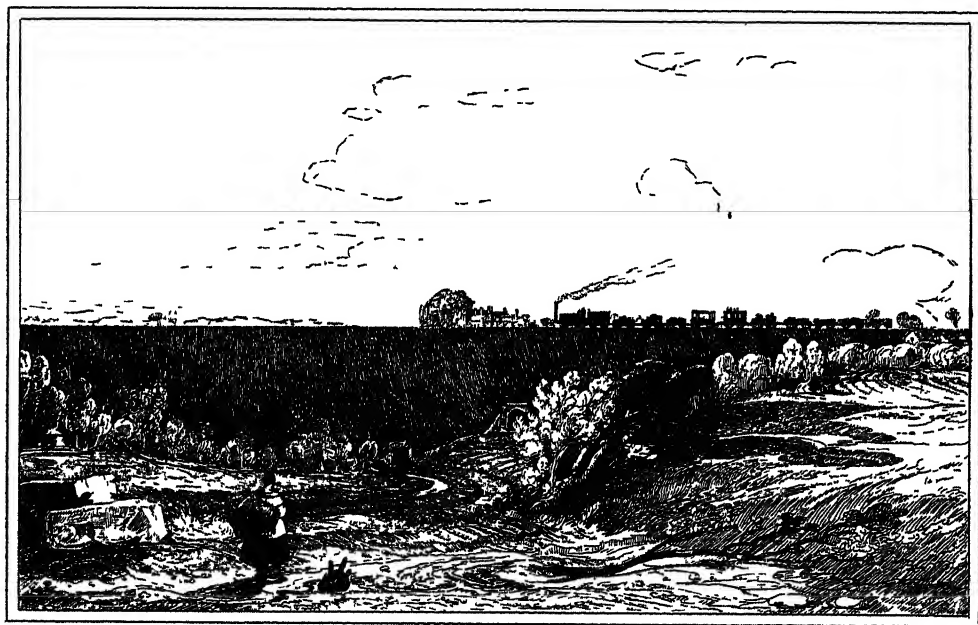
There were, of course, the genuinely conservative, who objected to all innovations, even to the steamships, those who said of the railways from Manchester and Southampton, that they were only fit to transport parsons and prawns, landowners who held up their land to such an extent that £1,750 a mile paid by Mr. Hudson on the York-Leeds and London Line was thought cheap as compared with £5,000 a mile which had been paid by the Midland. There was the old clergyman, whose land could only be surveyed for a railway when he was known to be in church preaching a sermon, and there was the Provost of Eton who, speaking of the railways, said that no good could possibly come from such an undertaking.

Clergymen seemed to be amongst the worst obstacles that stood

THE EFFECT ON THE LOWER AND UPPER CLASSES

in the way. We have the following amazing account concerning the London and Birmingham Railway, which later became part of the London and North Western Railway:

A reverend gentleman complained that his privacy had been ruined, that his daughter's bedroom windows were exposed to the unhallowed gaze of the men working on the railway, and that he must remove his family to a watering-place to enable him to do which he must engage a curate. All this was considered in the compensation demanded, and paid, yet no curate has been engaged, no lodgings at a watering-place taken. The unhappy family have still dwelt in their desecrated abode, and borne with Christian-like resignation all the miseries heaped upon them. The gilding of the pill, it seems, has rendered it palatable, and we have no doubt that if his daughters' rooms have a back window as well as a front one, he would be exceedingly glad if a railroad was carried across that at the same price.



Mr Cookson's seat, The Hermitage, Durham, as it would appear after the railway was built.

Mr. Cookson produced a special print of his view spoilt by a railway embankment, which he circulated to members of Parliament, showing his country seat just peeping above the embankment. One

is reminded of present-day photographs of downland scenery showing the effect of electric pylons. In the end the railway was obliged to purchase the whole of Mr. Cookson's estate.

The whole spirit of the Upper Class opposition seems summed up in an article in *John Bull* of 1835:

Does anybody mean to say that decent people, passengers who would use their own carriages, and are accustomed to their own comforts, would consent to be hurried along through the air upon a railroad, from which, had a lazy schoolboy left a marble, or a wicked one a stone, they would be pitched off their perilous track into the valley beneath; or is it to be imagined that women, who may like the fun of being whirled away on a party of pleasure for an hour to see a sight, would endure the fatigue, and misery, and danger, not only to themselves, but their children and families, of being dragged through the air at the rate of twenty miles an hour, all their lives being at the mercy of a tin pipe, or a copper boiler, or the accidental dropping of a pebble on the line of way?

We denounce the mania as destructive of the country in a thousand particulars—the whole face of the Kingdom is to be tattooed with these odious deformities—huge mounds are to intersect our beautiful valleys, the noise and stench of locomotive steam-engines are to disturb the quietude of the peasant, the farmer and the gentleman, and the roaring of bullocks, the bleating of sheep and the grunting of pigs to keep up one continual uproar through the night along the lines of these most dangerous and disfiguring abominations . . .

Railroads . . . will in their efforts to gain ground do incalculable mischief. If they succeed they will give an unnatural impetus to society, destroy all the relations which exist between man and man, overthrow all mercantile regulations, overturn the metropolitan markets, drain the provinces of all their resources, and create, at the peril of life, all sorts of confusion and distress. If they fail nothing will be left but the hideous memorials of public folly.

To complete this mosaic of opposing views we have many accounts, such as the following, free from controversy and picturesquely concentrated on fact:

It requires perhaps some boldness to claim for a mere piece of machinery, a combination of wheels and pistons, familiar to us by frequent use, an alliance with the sublime. Let the reader, however, place himself in imagination upon the margin of one of those broad dales of England, such, for example, as that of Barnsley in Yorkshire, of Stafford, or the vale of Berks, up each of which a great passenger railway is carried, and over which the eye commands an extended

THE EXCURSION TRAIN CALOP



BY

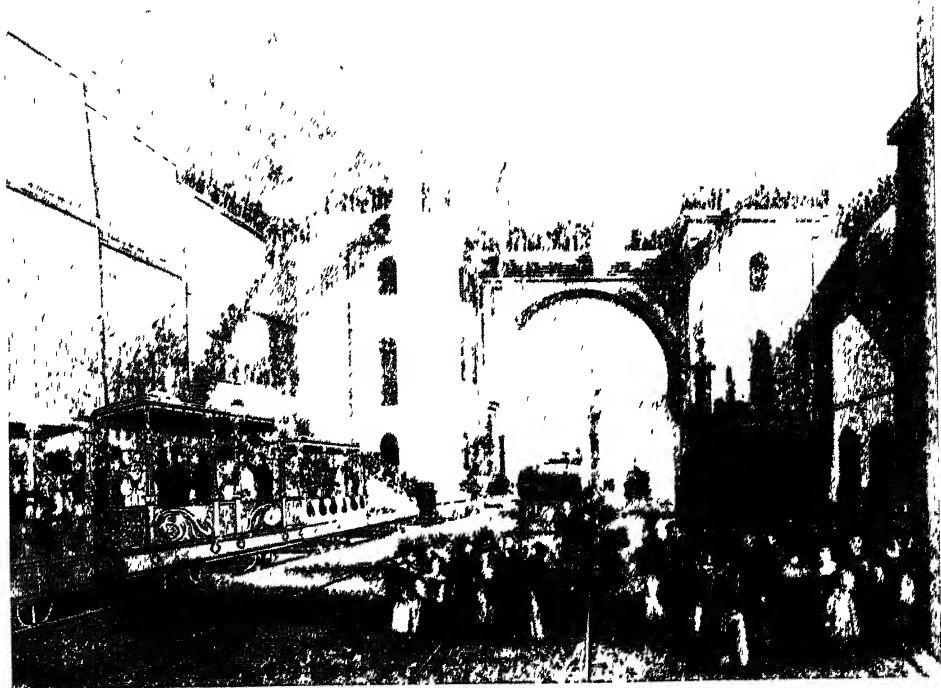
FRANK MUSGRAVE.

Let No Bull

LONDON: BREWER & CO. 23 BISHOPSGATE ST. WITHIN

Price 3/
do

14 Before long railways opened up a new world for the middle and lower classes
The Dover Railway, under Shakespeare Cliff, was completed in 1844



15 The opening of the Liverpool and Manchester Railway was the occasion of great magnificence. The ornateness of the Duke of Wellington's carriage and of the Moorish arch reflected the naive exuberance and confidence of the Industrial Revolutionaries.



16 The county squires viewed the railroad as an unwelcome intrusion. They saw in it, amongst other things, an alarming danger to their favourite pursuit of fox-hunting.

view In the extreme distance a white line of cloud appears to rise from the ground, and gradually passes away into the atmosphere. Soon a light murmur falls upon the ear, and the glitter of polished metal appears from time to time among the trees. The murmur soon becomes deeper and more tremulous. The cloud rises, of a more fleecy whiteness, and its conversion into the transparent air is more evident. The train rushes on; the bright engine rolls into full view, now crossing the broad river, now threading the various bendings of the railway, followed by its dark serpent-like body. The character of the sound is changed. The pleasant murmur becomes a deep intermitting boom, the clank of chains and carriage-fastenings is heard, and the train rolls along the rails with a resonance like thunder.

Suddenly a wagon stands in the way, or a plank, it may be, has been left across the rails, a shrill, unearthly scream issues from the engine, piercing the ears of the offending workmen, and scarcely less alarming the innocent passengers. Many a foolish head is popped out of the window, guards and brakemen busily apply their drags, and the driver reverses the machinery of his engine, and exerts its utmost force, though in vain, to stop the motion. The whole mass fairly slides upon the rail with the momentum due to some sixty or seventy tons. Then comes the moment of suspense, when nothing remains to be done, and it is uncertain whether the obstacle will be removed in time. It is so, and the huge mass slides by with scarcely an inch to spare. Off go the brakes, round fly the wheels, the steam is again turned on, and the train rolls forward at its wonted speed, until smoothly and silently it glides into the appointed stopping-place. Then come the opening of doors, and the bustle of luggage-porters. Coaches, cabs, omnibuses, vehicles of every description, fill and rapidly drive off, until before ten minutes have elapsed the uncouth engine has slunk back into its house, and some hundred passengers, with their luggage, have disappeared like a dream, and the platform is once more left to silence and solitude.

Before long there developed in many ways a much more kindly attitude towards the railways. John Orlando Parry, the famous Victorian entertainer, travels in 1845 proudly from Brighton in The Duchess of Kent's railway carriage and, although on the Eastern Counties Railways the journey was so rapid that he could hardly bear to look out and he was sometimes shaken to bits on a train, it made a memorable impression on his mind. And some years later a very different Victorian, Augustus Birrell, records his

remembrance as a boy of the 'deep and impressive Olive Mount cutting'.

In spite of landslips and occasional disasters, the railways made life easier for many people. The picturesque accounts in the Railway Guides of the various neighbourhoods and of their various happenings brought the different parts of the country-side nearer together, and we must remember that at the opening of the Stockton to Darlington Railways society of all kinds are seen assembled.

The doctors dissipated the view that the tunnels were injurious to health, they found the atmosphere of the tunnel 'dry and of an agreeable temperature and free from smell, and the temperature precisely the same as that of travelling in a coach by night between high walls,' and 'the danger no greater than upon an open railway or a turnpike road.'

The responsibilities of the engine drivers are not minimized, from the time the train starts they are monarchs of all they survey, and they acquit themselves well. Every precaution was taken. There are romantic accounts of the engine driver's grave duties. Some of the greatest of the earlier engineers hesitated to drive an engine themselves from the fear that their attention might wander. Brunel, in a letter to Gooch, expresses his dread of a runaway engine.

On Saturday I saw an engine on the line near the Scrubbs sent to look for the 3 o'clock train, in which I was and which was very late. This engine started after the 6 o'clock out and without any special orders from anyone in authority, but authorised by a general order which is issued, and returned on the wrong line. I cannot contemplate the dreadful results that might have happened, and there must be an immediate revision of our locomotive arrangements.

We did not produce fantastic drawings, like the Japanese of the new railways with chrysanthemums as wheels, but we did have delightful sentimental pictures of the young boy going out into the world third class and as a grown man returning first!

Edward Pease had grave doubts that the great monetary gain might prove a disintegrating force in the community to which he belonged, and he gave to others the profit he could not touch from making war steamer engines for the King of Sardinia. But these were kindly scruples, and many agreed with John Bright that 'the Railways have rendered more services and have received less gratitude than any other institution in the land'.

The comforts and safety of the railways improved every year. Smokers, instead of being banished to a special compartment, were allowed in certain carriages. In storms the railways proved good lightning conductors. There was genuine praise of the railway amenities coupled with some gentle chaff.

Presuming you arrive by the Birmingham Railway, your first object will be to find the way out. Whilst lost in admiration of the entrance, your luggage will probably go off in the Spread Eagle omnibus, you yourself being taken in by the Charing Cross one; and as none of your traps are directed, the hunt after them will cause sufficient diversion for the first evening.

At Brighton,

The first object which naturally attracts the attention of the visitor is the Railway Terminus, which consists of a noble shed, formed by a sloping roof, tastefully overlaid with slates and supported by iron pillars. The Booking-offices are admirable specimens of the brick-and-mortar style of architecture the interior is conveniently supplied with counters and clerks. Egress is obtained by means of a large gate, which will be easily found on application to a policeman, who will be recognised by his green uniform.

The more serious improvement for which the railways were responsible were dealt with in such books as the Railway Magazines, and Roscoe's and Osborne's Guides:

A gentleman went to Liverpool in the morning, purchased, and took back with him to Manchester, 150 tons of cotton, which he sold, and afterwards obtained an offer for a similar quantity. He went again; and actually, that same evening, delivered the second quantity in Manchester, having travelled 120 miles in four separate journeys, and bought, sold, and delivered, 30 miles off,

at two distinct deliveries, 300 tons of goods, in about 12 hours. The occurrence is perfectly astounding, and, had it been hinted at fifty years ago, would have been deemed impossible.

or

We cannot, indeed, clearly foresee the end of such an invention, of which this is one of the greatest experiments, or the condition of society it may ultimately produce, but we are warranted in believing that this onward state of improvement, by facilitating and enlarging the sphere of social communication, will tend greatly to increase the amount of social happiness and, in its combining and assimilating influences over the great human family, will assist in bringing about the benevolent purposes of Him 'who hath made of one blood all nations of men for to dwell on all the face of the earth'

The fastness of the railway was naturally one of the main themes, humorous and otherwise:

We read in the newspapers that a man was fined 20s for proceeding further on the railway than he had paid for. He fell asleep, according to his own account, and when he reached London he had no money to pay for the additional fare. Now we call this too bad! No railway can go on without its sleepers; and we think it something beyond a fare imposition that a gentleman, because he happened to be in the train, should be charged for sleeping faster than he ought to have done. Doubtless the individual in question had been accustomed to take his naps at the quiet rate of ten miles an hour, and had made no allowance for the difference of travelling between a four-in-hand and a thirty horse-power engine.

Of the Ballads, one of the most interesting is 'The Spiritual Railway'. Here we have the very essence of Victorian sentimental religion in its popular form.

THE SPIRITUAL RAILWAY

THE UPWARD LINE

The Line to Heaven by us is made
With Heavenly truth the rails are laid;
From Earth to Heaven the line extends
And in eternal life it ends.

Repentance is the station,
Where passengers are taken in;
No fee for them is there to pay,
For Love is in itself the way

God's word is the first engineer,
It points the way to heaven so clear,
Through tunnels dark and dreary there
It does the way to glory steer.

God's love the fire, his grace the steam
Which drives the engine and the train.
All you who would to glory ride
Must come to God, in Him abide.

In first, second, and third class—
Repentance, faith and holiness—
You must the way to glory gain,
Or you on High can never reign.

Come, then, poor sinners, now's the time,
At any station on the line;
If you'll repent and turn from sin,
The train will stop and take you in.

If all these trains should by you pass,
And you are found in neither class,
When neither truth, or fire, or steam
Can make you willing to get in.

Then, sinners, you will weep at last
When Heaven is lost and time is past;
The Heavenly trains are all gone by,
The sinner must for ever die.

When all these trains at Heaven arrive,
With all who did with God abide,
How sweet their voices, how they sing
And praise their great eternal King.

The King Eternal on his throne
Announces that the trains are come;
Their robes are ready to put on
And then they hear the words 'well done'.

THE RAILWAY AGE

THE DOWN LINE

There is a Railway downward laid,
Which God the Father never made,
But it was laid when Adam fell,
What numbers it conveys to Hell!

Six thousand years are nearly gone,
Since first that Railway was begun,
The road is wide and smooth and gay,
And there are stations on the way.

Appollyon is the engineer,
His coat of arms his servants wear,
The steam his breath, which drives the train,
The fire is sin, which feeds the flame.

The first, second and third train,
Are full of passengers within,
The steam is up, the flag unfurled,
How quick they move to yonder world!

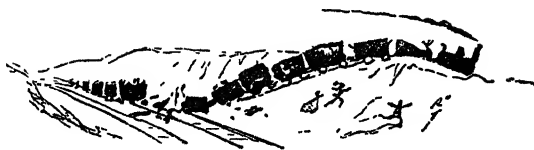
How fortune smiles, and pleasures gay,
At any station on the way,
Here dress and fashion you may find
Of every sort, of every kind.

The cheerful glass is drunk with glee,
And cards and music you may see;
Both old and young, rich and poor,
All standing near the station door,

Appollyon now begins to boast
Of numbers great—a mighty host,
Who are inclined their place to take,
To travel downward to the lake.

Oh! think on this while yet you may,
And stop your speed without delay;
Oh! leave the train that leads to Hell,
If you on High would ever dwell.

ROYALTY, THE GOVERNMENT AND THE SPECULATORS



'A run upon the Bank'

ROYALTY

The Great Western Railway had been opened for four years between London and Slough before Queen Victoria ventured on her first railway journey. The 'noble' Saloon had been ready since July 1840, but it was not until June 13th, 1842, that the Queen entrained:

At Slough the Royal party, on their arrival at the station a few minutes before 12 o'clock in six carriages, were received by Mr. C. Russell, the Chairman, Mr. F. P. Barlow, one of the Directors, and Mr C. A. Saunders, the Secretary of the Company, and conducted to the splendid apartments at the station designed for the reception of Royalty. Her Majesty, however, during the delay necessarily occasioned by the placing of the carriages of the attendants on the trucks, proceeded to examine the line and the Royal Saloon, enquiring very minutely into the whole of the arrangements. Precisely at 12 o'clock the train left Slough for Paddington, Mr Gooch, the Superintendent of the Locomotive Department, accompanied by Mr. Brunel, the engineer, driving the engine.

At Paddington by 11 o'clock the centre of the wide space apportioned for the arrival of trains was parted off and carpeted with a crimson carpet, which reached from one end of the platform to the other. The whole of the arrangements for the reception of the Royal party were under the superintendence of Mr. Seymour Clarke, the Superintendent of the line, assisted by Supt Collard, of the Company's Police, and Supt. Lincoln and a large body of the D Division were also present.

Before 12 o'clock large numbers of elegantly dressed ladies, consisting of the families and friends of the Directors and Officers of the Company, were arranged

on each side of the part apportioned for the arrival of the Royal train, and at five minutes before 12 o'clock Her Majesty's carriage, drawn by four horses, arrived from the Royal Mews at Pimlico, and a few minutes afterwards a detachment of the 8th Royal Irish Hussars, under the command of Capt. Sir G. Brown, arrived from the barracks at Kensington for the purpose of acting as an escort to Her Majesty.

Precisely at 25 minutes past 12 o'clock the Royal Special Train entered the terminus, having performed the distance in 25 minutes, and on Her Majesty alighting she was received with the most deafening demonstrations of loyalty and affection we have ever experienced. H.R.H. Prince Albert alighted first. Her Majesty, on being handed out of the Saloon, in a most condescending manner returned the gratulations of the assembly present. The cheers were re-echoed by the numerous persons who crowded the bridge over the terminus leading to Paddington Green and lined the avenue towards the Junction Road, along which the Royal cavalcade passed. Her Majesty reached Buckingham Palace shortly before one o'clock, round which a large assemblage of respectable persons was waiting her arrival, by whom she was loudly cheered.

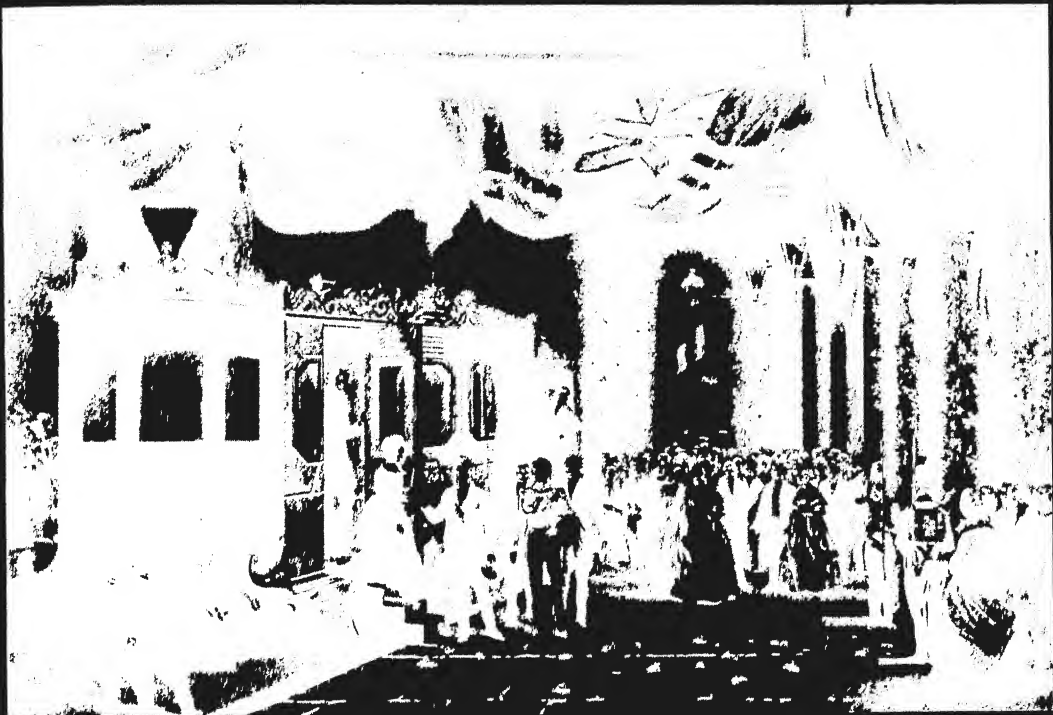
The *Atlas* did not altogether approve:

We are aware that every precaution is taken by the directors and managers of the Great Western Railway when Her Majesty makes use of a special train, and we are not less acquainted with the courage and absence of all fear from the mind of the Queen. But a long regency in this country would be so fearful and tremendous an evil, that we cannot but desire, in common with many others, that those Royal railway excursions should be, if possible, either wholly abandoned or only occasionally resorted to.

There is danger by the railway; and therefore, says the *Atlas*, the Queen should be only 'occasionally' exposed to it. Say the chances against accident are as nineteen to twenty, shall the Queen 'take a chance'? 'Yes,' says loyalty, 'the Queen may *occasionally* take a chance'.

Louis Philippe was practically forbidden to endanger his life on the railway. *Le Commerce* tells the story:

When the King was intending to go with the Royal Family to his château at Bizy, he proposed to be conveyed by a special train on the railway as far as Rouen, and orders were given to this effect, but the Council of Ministers, on being acquainted with His Majesty's project, held a sitting, and came to the resolution that this mode of travelling by railway was not sufficiently secure to admit of its being used by the King, and consequently His Majesty went to Bizy



17 *There was considerable charm in the decorations prepared for Royalty on the railways. The Queen is here seen alighting at Gosport on a carpet embellished with rose-buds. The occasion was a visit from Louis Philippe.*



18 *The Royal Waiting Room at Paddington, as it existed until recently, had a typical mid-Victorian atmosphere. There were clouded glass gas brackets, chairs in the French taste and, of course, aspidistras.*

with post-horses This, it must be acknowledged, is a singular mode chosen by the Cabinet for encouraging railways

The Great Western has a long record of Royal Journeys and special trains, but they never actually had a special Royal Station, such as the Queen habitually used at Wandsworth Road. Very special precautions on all lines were always taken when Queen Victoria travelled, but if, as she desired, similar precautions were taken for all her subjects, few trains would ever run at all. The Queen's Saloons on the North Western were tastefully furnished and thickly padded with quilted silk to deaden the noise, and though she never travelled to or from Scotland over the six different railways as fast as some of her subjects, she no doubt had a faster and, as a rule, pleasanter journey than if she had travelled by sea.

In time special trains, not only for Royalty but for other purposes, became quite common. By 1848 they were being used, soon after Louis Philippe's flight, by Mr. W. H. Smith & Son, for such a specialized purpose as to announce that the Income Tax would not be raised to a shilling in the pound.

GOVERNMENT

In the construction of the railways Parliament was at once faced with the question of the rights of the owners of private property. Some towns wished to have the railways kept away, other towns tried to insist that they should come to them; Northampton was fickle. High prices were demanded by property owners because the railway would depreciate the adjoining property, and where the railways wished additional land the owners contended that the railways had caused a substantial appreciation.

The position is best summed up by Osborne in his book on the London and Birmingham Railway. The difficulties of the

Liverpool and Manchester Railway that he describes were by no means isolated.

In the construction of a great line of road or canal the intersection of a number of estates is involved, and some of the property of the landed proprietors must necessarily be procured. The principle, on which land or any other property is held by any individual in a society, is that it is to the interest of the society that such private possession should exist; and if at any time it can be shown that the public welfare or safety requires the confiscation of certain property or the change of its proprietors, the legislators representing the public have power to enact a law on the subject to authorise the change, resistance to which enactment would be treason. In accordance with this principle, and for the purpose of gaining these essential privileges, it was necessary to apply for an act of parliament to enforce the landholders on the line of country intended for the railroad to give up the land at a reasonable valuation, so as to enable the directors to carry out the objects of the company. Such a bill of course met with considerable opposition in both houses of parliament, and much delay was incurred in consequence. The bill, having been rejected by a majority of the commons, had again to be brought in, and it was not till 1826 that it was agreed to by parliament; the cost of the parliamentary proceedings to the company and its opponents is computed at £70,000.

As railways came as a fact that had to be accepted, Parliament viewed their growth as they had viewed the growth of canals. It was at first assumed that the railway companies would confine themselves, as the canals did, to providing facilities for transport, and that the carriers of goods who wished to use the lines would provide their own trucks and engines or horses to draw them. In this way the danger of a railway monopoly existing would be greatly reduced, as there would always be competition between the various carriers using the line as there had been to some extent in the carriers who used the canals.

But this safeguard against a monopoly soon vanished. As the canal proprietors had been the sole owners of the only easy means of transit, so the railway companies, keeping to themselves the rights to use the necessary stations and watering places, had the various

carriers who used their lines completely in their power. It was true that the new railway companies could not raise their tolls indefinitely, but it was soon found that the entire operation of a line must be under their control, and that the railway companies would have to become carriers of goods as well as owners of rails. A Parliamentary Committee, in 1840, of which Sir Robert Peel was a member, found that as far as locomotive powers are concerned, the rivalry of competing parties on the same line must come to an end, and that a monopoly, at any rate for passenger traffic, must be regarded as a necessary evil.

On the other hand, though it disliked the monopoly which it felt was inevitable, the Government were in no mood to help the revolution by financing it. As the Government had failed effectively to preserve England's timber, so necessary for the wooden ships and now for the sleepers of the railways, and at the same time had given little encouragement to the growing iron industry, so Parliament neither encouraged nor discouraged the new railways; it saw their weak points but did little to help them to overcome them. There were so many different interests represented in the Government. The roads and, to a certain extent, the canals were the admiration of the world. Why risk them for anything so revolutionary as a railway? State Control or State Ownership would only lead to endless complaints about the railways and probably be a burden to the taxpayer.

So many new and promising schemes for railway traction were spread abroad that a greater number began to favour State Control. In May 1843 *The Athenæum* writes:

With a view to the future let us glance at the facts as they now stare us in the face. In the first place, look at the vicinity of London. Two railways—the Northern and Eastern, and the Eastern Counties, to Cambridge and to Colchester—are carried into the same district; both are unsuccessful—one

might have served all the purposes of both, and perhaps neither is the line that should have been adopted. At all events, one of the two is useless—total loss, say £1,000,000. When going north, we have two lines parallel with each other, the Birmingham and Derby, and the Midland Counties, the latter of which should never have existed—total loss, £1,000,000. Then Chester and Crewe, Manchester and Crewe, and Newton and Crewe, and Chester and Birkenhead, three of them unprofitable, a total loss (without any advantage) amounting to £1,500,000. That the Manchester and Preston, and the Newton and Preston, and the Leigh and Bolton should co-exist in the same district, is a further absurdity, costing at least an unnecessary £500,000. No one acquainted with the country can for a moment admit that both the Manchester and Leeds, and Manchester and Sheffield should have been made as separate railways, at a loss of £1,500,000. Thus might good legislation have rendered to the country two essential services. The whole traffic at present existing might have been concentrated on the remaining lines by a judicious selection, so that they would have been rendered more profitable to the country, while these six millions would have remained for investment. With this money at its disposal our Government might now have had the following lines for conveyance of mails, which it eminently wants, viz, a mail line from Exeter to Plymouth; a mail line to Ireland by way of Chester and Holyhead; and a mail line north to Scotland. These great lines would have been feeders to those, which already exist, would have conferred great benefits on the country, and would have cost no more than has been already paid for partial communication.

It must be remembered that the attitude towards railways was still to a great extent that of Mr. Cooke, the successful introducer of electrical telegraphs. There must be, he declares,

perfect adaptation of a railway to the wants of the country through which it passes. Passengers might be taken up, as on the Liverpool and Manchester line, at very short distances; and to save expensive stations, and prevent impatience when a train is late, a bell might be rung for some time before the arrival of a train, to publish to the neighbourhood its gradual approach. Passengers might be collected in horse carriages, and agricultural produce might be carried in wagons along the railway, in the intervals between the trains. Short branches might be worked entirely by horses, in correspondence with the trains upon the main line. Such minor sources of traffic would deserve the attention of a railway, in proportion as cheapness of construction enabled smaller returns to realise the same proportional dividend. Numerous little rills and streamlets would swell the tide of traffic; and the roadside population would at length participate in the convenience of the vast works which have deprived them of



Truro, Redruth & Penzance Railway Company,
 IN CONTINUATION OF THE LONDON, EXETER & FALMOUTH RAILWAY,
WITH A BREAKWATER AT PENLEE POINT,
MOUNT'S BAY.

CAPITAL £350,000.
 IN SHARES OF £25 EACH DEPOSIT £1 PER SHARE

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their local conveyances; in short, many lines of railway might become what all were once intended to be, *highway-roads* open to the use of the public.

There were various schemes from the very beginning for minor forms of State Control. It was suggested that the Government might give some assistance for a horse railway on the proposed High Level at Newcastle. The mails were always a problem. It was suggested that the Government should have facilities to run its own mail trains with its own engines. On the other hand, in 1842, Lord Lowther, the Postmaster-General, did not think the railways safe enough to be trusted with His Majesty's Mails, and the coaches, having been driven off the roads by the new railways, the mails were sent down to Brighton by cart, a method considered not very respectable.

Mixed gauges were proving a failure, and the advocates of both the Broad and Narrow Gauges always had their eyes on Parliamentary support. Those who wished to check the extension of the Broad Gauge even arranged for a sudden congestion of traffic to impress the visiting members of a Parliamentary Committee with the evils of the work of transferring goods from one line to the other. Fights between various companies, as they became more and more numerous, became increasingly injurious both to the investing and the travelling public. It was obvious that minor methods of reform could do little.

By 1848 saner opinion had settled down to some form of voluntary union between some of the leading companies as obviously good for everybody. In giving evidence before a Committee of the House of Commons, Mr. Austin, of the London and North Western, said:

Mr. Adie had admitted that what, for the purposes of this committee, we may term the North Western system, is better and more efficiently worked under the united management than it was while the several companies were dis-united. Now, just look at this long line, at present under one management, and break it down into its several portions—the London and Birmingham, the

Grand Junction, the Preston and Lancaster, the Lancaster and Carlisle, the Caledonian, the Scottish Central, and the Perth and Northern Lines. This long line is divided into seven separate parts, all harmoniously worked under one management. But dis sever them—let the London and North Western resolve itself into the London and Birmingham and the Grand Junction Companies again—let there be no union between the Preston and Lancaster and the Lancaster and Carlisle—let the Caledonian stand by itself, totally unconnected with its present allies to the South, and what a state of things you will have! And again this, I contend, is in favour of what I call an equitable railway monopoly. There is no fear of the monopoly which my learned friend referred to. It is a raw-head-and-bloody-bones, intended only to frighten old women and children. Monopoly in some degree you must, and you will, have. The question is, how shall that monopoly be worked with benefit to the companies and advantage to the public? . . . There ought not—there is not—there cannot be—any competition on railways. It is a thing that cannot exist—it is a popular error—a legal fallacy. Competition is a widely different thing, and exists only under very different circumstances. There ought to be no law to interfere between two grocers. They have entered into a commercial speculation, and they must win or lose, as fortune and their own good or bad management wills it. But in the case of railways the principle of competition is completely displaced, and I have no doubt that, before many sessions shall have passed, we shall have a law introduced for the purpose of preventing what, in the absence of a better word, I must call private competition in matters of railways.

It was becoming increasingly obvious that Parliament could not burden the railways with legislation in one direction and then limit their holders in others. The holding of Parliamentary Committees were very expensive and did little to help.

In 1848, at a meeting of the London and North Western Railway, Mr. Glyn remarked:

Railway Companies, like other commercial bodies, appeared in the money-market for the purpose of securing the funds requisite for their undertakings. They had engagements to carry out, which they were as much bound to carry out as any other of our great trading companies. They had had powers given to them by Parliament which they must necessarily exercise for that purpose; and I maintain that it is unfounded—that it is no fair allegation—that the evil has arisen from them, if, in common with the Bank of England, in common with the East India Company, in common, in short, with all other large trading bodies, they have appeared as competitors in the money-market to raise their



Deposit of railway plans with the Board of Trade.

necessary funds. If, gentlemen, any fault is to be found, let it not fall upon the Railway Companies themselves; rather let it fall upon those who, in the course of 1845 and 1846, chose, in legislating to adopt the principle of competition—chose to force upon the country the necessity of borrowing an immense amount of capital for the formation of new lines—chose to force upon us the necessity of defending our own property by compelling us to undertake schemes, which, I take upon myself to say, on behalf of the Board, would otherwise never have entered into our imaginations.

Whatever might be the rights and wrongs with regard to the ownership of the railways there were the rights of the lower classes to be respected and the general safety of the travelling public—such matters must inevitably sooner or later be treated as national affairs.

Punch throws an admirable light on these subjects. In 1844 there are a few paragraphs on 'Poverty and Sibthorp', and an amusing cartoon:

Mr. Roebuck has called the attention of Parliament to the conduct of the Lords of the Great Western Railway, complaining that the poor who travel by the third-class trains are exposed to the inclemency of the weather; and that, moreover, they are made to pass twenty-four hours on the rail in a journey performed by first-class trains in six. Mr. Roebuck very absurdly called this a hardship. What would the man have? Make poverty at all comfortable, and you divest it of its ignominy. And as for the twenty-four hours—why, considering that so many thousands of the poor have no use whatever for time, is it not especially kind in the Great Western people so to occupy them? Mr. Roebuck thought that the House should interfere to obtain some decent accommodation for third-class penury, whereupon Sir Robert Peel, with a chivalrous sense of the sacred rights of property, begged to state that he thought the railway directors should be allowed to drive what bargain they chose with the poor and helpless.

Colonel Sibthorp rose—(when Parliament is without its Sibthorp, may Pantomime lose its Clown!)—and, for the twentieth time, avowed that he abominated all railroads soever. They had ruined innkeepers and posting-masters. Nevertheless, Sibthorp showed himself a man of imperfect sympathies, for he had no word for chambermaids and boots. The sincere hatred of Sibthorp for the rail we respect, and doubt not that he would at any time, to vindicate his disgust of such rapid transit, consent to travel from London to York by the slowest waggon.

ROYALTY, THE GOVERNMENT AND THE SPECULATORS

The original Quixote attacked only windmills—our *own* Colonel makes a terrible onslaught upon railway steam-engines.

In the same year there are the following suggestions for the Parliamentary Railway Bill, which is about to be introduced in the next session:

That smoking be allowed, with the exception of the engine, which should consume its own smoke.

That the tunnels be illuminated with Vauxhall lamps.

That the engines be supplied with 'Crevelli's Cough Lozenges' or the 'Pate Pectorale', to cure them of the dreadful asthma they are subject to the whole year round; and that they be allowed to stop as often as the stokers please to 'wet their whistle'.

That husband and wife be not allowed to travel in the same carriage, for fear of their *falling out* during the journey.

That the engine be placed in front of the third-class train, to allow a large supply of coals being distributed at this cold season of the year amongst the poorer passengers.

To the end Parliament maintained its attitude of regulation rather than ownership, and our railways to-day, with their own peculiar virtues and failings, are largely the result of the economic theories of the 'forties.

THE SPECULATORS

Between 1839 and 1841 money like bread was dear, following its dissipation in the first railway boom, but by 1843-44 money had become plentiful and abnormally cheap, the early railways began to pay, and the real railway mania started. England began to find money, not only for British but for foreign rails. People of all professions became 'engineers'. The Committee Rooms of both Houses of Parliament were crowded with engineers, lawyers and witnesses. Those, fortunate enough to be paid, made fortunes, though most of the general public who speculated lost their money.

But labour was absorbed, the 'navvy' became a national type, and even horse-drawn conveyances flourished as station 'flies'.

The Joint Stock Company, with its limited liability, encouraged speculation amongst a much larger public. The telegraph was making almost as many revolutionary changes as the railways, the public were in a mood for wonders. Optimistic plans were made for a railway from London to Calcutta. *Punch* reflected the national feelings:

The provisional committee, appointed to superintend the preliminary arrangements connected with this great undertaking, beg to submit to the public the following statement, with the view of forming a Company to carry out this vast national concern, by shares, to consist of an unlimited number.

In consequence of the extreme difficulty at present experienced in making the voyage to China and India, together with the delay and chances of shipwreck, it has been proposed, under the advice of an eminent engineer, to construct a railway from hence to the Celestial Empire.

The plan suggested for the end in view is to penetrate the bowels of the earth.

A Mare's Nest

Through the medium of a tunnel from London to Canton, passing through the centre of the globe, thus obviating altogether the enormous expense usually incurred in the purchase of land, and avoiding the opposition likely to be encountered from hostile nations.

It is intended that the terminus in England shall be upon the present site of St. Paul's Cathedral, London,

which, for the purposes of this undertaking, is to be pulled down. With this view, the Bishop of London has already been applied to for a grant of the land upon which it stands, with which application it is confidently expected his Lordship will readily comply, should he, however, object to the proposal, an application will immediately be made to Parliament on the subject, when, of course, the church will at once be placed at the disposal of the Company, etc. etc.

To go off by train meant to many to lose one's mental balance. 'I am ready to go off by train as the barrell of gunpowder said to Guy Fawkes.' A political crash and smash was likened to several trains colliding at a junction. We have an amusing 'report of the Meeting of the Hum and Diddlesex' Railway Company:

The Chairman would now refer to the finance statement. (Hear!) He felt bound to say it would be found most satisfactory. £7,000 had been mortgaged on annuities at par, and their debentures were wholly independent of their stock of engines. (Cheers) The permanent way was now in trust for the increased debits on the gradients. (Hear! Hear!) From this it was clear that there was £4,000 balance per contra on the new half shares. (A voice. 'What's the receipts?') The Chairman could not be expected to go into such details. They had lately opened six miles of the 'Navvy and Stoker Extension Branch', which he had no doubt would pay well when a town had arisen at each end, and traffic was induced between them. (A voice. 'What's the expenditure?') The Chairman begged not to be interrupted. The meeting would observe one little item of £56,000 for law expenses. They had triumphed over their opponents. True, they had incurred some trifling expense—but were they, he asked, to be insulted by the Grand Gumption?—(No!)—or by any other line? (No, no! and cheers.) Then as to the dividend—(Hear, hear, hear!)—the secretary had recommended a nett dividend of 10 per cent. (Hear!) on the deficit, and thus, after paying the surplus and Directors' salaries (which, he was glad to say, had been raised £500 each per annum), left the 4 per cent. incidental expenses as money in hand, which would render it necessary for the shareholders at once to pay up the late £20 calls. (Sensation. A voice 'What is the dividend to be?') The Chairman put it to the meeting whether the gentleman's question had not already been distinctly answered, and after some confusion he vacated the chair, and the meeting separated.

Occasionally companies showed a spirit of co-operation and tried to unite, but even then there were Parliamentary difficulties. Often the behaviour of the companies was very puzzling. The Railway Committee of July 8th, 1848, shows the latest 'deviation' of the Manchester and Buxton Railway:

The Manchester, Buxton, Matlock and Midlands deviation of this session is a curiosity in its way—one of those whims of eccentric genius that sometimes startle and puzzle us. It is the one line—the Benjamin of Mr. George Stephenson—and now makes its third appearance in a new shape, which makes one wonder why it should retain its present title. In 1846 an Act was obtained for a line under this name, which, commencing at Stockport, passed through Whaleybridge, Burton and Ashford to Matlock, thus intersecting in its main route the most delightful scenery and most famous watering-places of Derbyshire, and laying them open to Lancashire and Cheshire at one extremity, and to all the districts radiating from Derby at the other. In 1847 another

deviation was applied for and obtained, by which better gradients were secured, at the expense of a slight circuit more to the South. This year another deviation has been applied for, and successfully in the Commons, in an exactly opposite direction—towards the North. Buxton, the principal town on the route, is put on a branch of a mile, with a gradient of 1 in 20, proposed to be worked by stationary power, while the main line, after piercing a tunnel two miles in length, proceeds through the Duke of Devonshire's grounds, within sight and hearing of his mansion of Chatsworth, as if towards Sheffield, but suddenly halts, and drops down towards Matlock. It cannot be denied that a line which runs through the lawn before a nobleman's house, dashes through an unnecessary tunnel of two miles, at an unnecessary expense of £250,000, and places the principal town from which it derives its name upon a branch with a gradient of 1 in 20, is a railway curiosity.

In 1801 the first Railway Act had been passed authorising the Surrey Iron Railway Company to construct a railway from the river Thames at Wandsworth to Croydon. In 1846 they obtained an Act authorising the sale of their lands and the dissolution of the company, as no dividends had been passed for twenty-one years. Yet in the same year there was an unprecedented number of bills applying for Parliamentary sanction for new lines.

The Stockbrokers who had removed from the Royal Exchange to Capel Court, were greatly to blame. On 25th November 1848 the *Railway Gazette* writes:

We attack, and we have attacked, only the notorious abuses of the Stock-market. We point out facts; we expose frauds; we invite inquiry, and invoke justice. Any one who can feel angry at our proceedings, must either have a sympathy for rascals, or have practised the rascality which we have denounced. We say, the men who perverted—if you will—the Stock Exchange system of business, so as openly to 'rig' bubble schemes, concocted to rob the public, up to bubble premiums, and who received large bribes for so openly rigging the market, ought to be reached by our criminal law, or failing this, to be expelled from the Stock Exchange. But when we see no step taken by the Committee, either to punish notorious delinquents, or to repress a practice that is unblushingly avowed in our courts of justice to exist, then we say that we and the public have a right to conclude, that a system of business which is so dishonest, is not the system of a few, but the general system, sanctioned by the general

body. Until we see the public interests properly protected, we shall never cease from warning them against the pitfalls which are contrived for them in the regions of Capel Court

The Liverpool and Manchester Railway had had an attractive Share Certificate with Britannia pointing proudly to her railways, and Stephenson, even in his Bills, had attractive pictures of railways at the top. James's General Railroad Company had been a fore-runner of Stephenson's projects, and from these small beginnings railway speculation had grown and grown.

The situation is best described in Williams' *Iron Roads* :

The circumstances under which railway enterprises are now undertaken are essentially different from those in which, in former days, some of them came into being. For many a year their origin was, as we have seen, more or less speculative. 'Project money' was, perhaps, paid for the idea. Directors of supposed business habits, with possibly 'a lord' or two for ornamental purposes, were selected by the projectors of the scheme, and a secretary, an engineer, a banker, and a solicitor, were chosen, chiefly under the influences of private considerations. A prospectus was then privately circulated, and was inserted in the principal daily and local newspapers, in which an enlightened and a discriminating public was informed of the important project which had been devised. In due time a newspaper reaches the breakfast table of the happy owner of a little uninvested capital, who unfolds the packet, still as damp as the sheets of a German bed. His eye glances over subjects dramatical, political, poetical, and paragraphical—now he alights on this piece, and then he flutters off to that; and after running up one column and down another, like an aide-de-camp on a battlefield, disregarding the accomplishments of nursemaids, or the number of housemaids who want situations 'where a footman is kept'; wondering, for an instant, how a gentleman, no more than fifty, who possesses, according to his own candid confession, 'all the virtues out of heaven', and £500 a year to boot, should be reduced to the unpleasant necessity of advertising for a wife, and meditating for an instant on a variety of other equally momentous problems, the prospectus of 'the Grand Diddlesex Junction', of which he had already heard, attracts his attention. Therein he reads that a 'direct, cheap, and convenient railroad' is to be constructed through a populous and wealthy district, situated in a county or in counties whose manufacturing, mining, agricultural, trading, or commercial resources are minutely and vividly delineated. The document expatiates on the inconveniences which are

at present caused by the inadequacy of the means of communication; and the assurance is given to all in whose neighbourhood the line will pass, that it will be a boon to trade, and will revive or augment all its commercial interests. The cost of the required land is either 'moderate', or a comparatively 'trifling' item, the whole line, with necessary appendages, can be completed at an expense of so many hundreds of thousands sterling; and the annual return on the traffic arising from passengers and goods will yield, at moderate rates of tonnage, satisfactory dividends. The date is added at which the Act of Parliament will be applied for in order to incorporate the subscribers as a Company, with all usual and necessary powers for carrying out the proposed scheme, and for the proper conduct and regulation of its affairs. The time and place at which the annual general meeting will be held, the number and value of the shares to be raised; the bank into which the money is to be paid; and an invitation to all persons who wish to take shares, to apply to the Chairman of the Provisional Committee, usually follow this part of the statement, the assurance being added, that the present defective nature and the expense of the means of communication between districts so important, which 'have been so often and loudly complained of', render unnecessary any apology for the present undertaking.

The logic and eloquence of the prospectus overcome the reader, and before his last cup of now luke-warm coffee is swallowed, he resolves to write, without delay, to the Provisional Committee of the 'Grand Diddlesex Junction', and to request, in accordance with the prescribed 'form of application' which is subjoined to the prospectus, that there may be 'apportioned' to him '—shares in the above proposed railway'; and he engages to pay 'the deposit of £2 10s. per share upon such allotment', and to sign its subscription contract required by Parliament, and also the subscribers' agreement.

'Some seven men form an Association,' Gilbert sings,
 '(If possible, all Peers and Baronets)
 They start off with a public declaration
 To what extent they mean to pay their debts.
 That's called their Capital.'

In the midst of it all companies quarrelled between themselves, or even within themselves. Rival meetings of the Great Western Railway were held and the seal of the Company was several times forged. Engines ran into each other in order to assert the claims of rival companies.

The engine of the Shrewsbury and Birmingham slowly advanced in spite of the red flags hoisted, and amidst the cheers and shouts of the assembled multitude, butted against that of the London and North Western, which, being a very powerful engine, and the brakes being screwed tightly down, received but a slight shock from the concussion. The parties in charge of the London and North Western engine were then requested to move on, but declined, and Mr. Baker, the engineer of the Stour Valley, who was on that engine, in reply to several questions, knowingly shook his head. The two engines standing opposite each other in the closest proximity with the steam power of their gigantic bodies issuing from the various safety valves in voluminous quantities with a hissing noise presented an exciting spectacle, representing the antagonism of their respective proprietors.

Railroad mania was at its height:

Really, the most remarkable instance in modern times of the mania that exists for making rail-roads, is to be met with at the two and a half-mile stone on the Hammersmith Road, where a few capitalists have been amusing themselves by the construction of a new West Suburban, Grand Paddington and Warwick Square Junction, or Earl's Court Canal Navigation and Kensington Nursery Ground Railway. The effect of which appears to be to enable persons arriving from Birmingham by the Great Western Railway to reach the basin of the canal, running from Warwick Square to the pond in the middle of Earl's Court with as little delay as possible.

We understand that the Directors rely on the tremendous traffic likely to ensue between the two and a half-mile stone on the Hammersmith Road and the London terminus of the Great Western Railway. It is contemplated also that the inhabitants of Warwick Square will be constantly wanting to run backwards and forwards to Paddington, which, when the houses are all built—at present there are only two—will materially assist the effects of the Company. Supposing that the Square ultimately comprises thirty houses, and supposing each family to consist of ten persons, including servants, this will give a population of three hundred, so that if only half of them wish to go to Paddington every morning, it will be seen that the shareholders may calculate, from this source alone, on 1,800 passengers every week; that is to say, supposing the 150 persons who are supposed to want to go to Paddington are all supposed to want to come back again, and are also supposed to choose the West Suburban, Grand Paddington and Warwick Square Junction, etc., etc., Railway as the best mode of reaching their destination. Another great point, as the Directors implicitly believe, is the propinquity of the basin of the canal; for it is a well-known fact, in railway statistics, that a line which is not near a canal, bears the

same proportion to a line that is near a canal, as the Mth of X does to the Oth of 24, or the XX of Alpha. It is quite true that the canal goes nowhere at present; but there is no knowing where it may go to in time, if the spirit of speculation should push it to the extent of all its capabilities.

It is calculated that a goods train, in connection with this canal, would be highly remunerative, supposing that Pickford should remove his warehouses to Warwick Square, which is not at all beyond the range of a very remote possibility. At all events, come what may, that is to say, if nothing ever comes at all, the Paddington washerwomen may be induced to bring their clothes to the vacant space about Earl's Court for the purpose of drying them; and in this case it would be worth while to start a clothes-train expressly for their accommodation. They might be allowed the additional privilege of boiling the clothes in the copper of the engine, and perhaps they might, at a small extra charge, be permitted to mangle them under the wheels of the luggage trains.

The railways intruded into domestic life, for Parry, the famous Victorian entertainer, says of 'The Railway Husband':

And when my husband sleeps at night,
 Strange dreams his slumbers vex,
 He starts up wildly in his bed
 And raves about Group X.
 His heart's bow'd down with weight of care,
 Which anyone may see.
 His broker is his only friend,
 In fact his Share Ami!

Railway Companies, with the capital to do it, spent considerable sums on non-railway enterprises—docks, steamboats, and hotels, etc., and thus it was difficult for the investor to know exactly what was being done with his money. On the other hand, the railway company did not usually manufacture its own necessities. It did not at first manufacture its own engines, and even the making of its lines was transferred to other firms. There was a good deal of 'influence' exercised in such matters by outside companies. In addition to this, on developing new railways innumerable 'surveyors' etc., were required and were in many cases paid very large wages for work

that they were ill-equipped to perform, and the projects necessarily suffered.

It is not to be wondered at that the railway booms did not last very long. Amongst other unsound factors in railway development was the practice of quite sound companies invading territory, which could not give them a good traffic return, in order to forestall a possible rival. The huge capital involved in these ventures watered down the original sound stock. There were instances then, as there are now, of projects being promoted, not for the profit that they might bring in but for the compensation which might be awarded if they had to be discontinued. With such factors at work it was not to be wondered at that the railway boom did not last very long.

It must be remembered that, though passenger traffic increased rapidly, most of the early railways were for mineral traffic and very local. Passenger traffic in some districts was still a speculation.

The root of the whole evil of the Railway Mania was that shares were bought for the premium they might obtain and not for investment. Often the second call on some new shares could never be obtained if the shares had gone down instead of up. The original deposit money was often spent in 'preliminary expenses' and lawyers' fees, and everybody gained except the original unfortunate investor. Everyone was anxious to make on the Stock Exchange.

Old men and young, the famish'd and the full,
The rich and poor, widow, and wife, and maid,
Master and servant—all, with one intent,
Rushed on the paper scrip; their eager eyes
Flashing a fierce unconquerable greed—
Their hot palms itching—all their being fill'd
With one desire.

A list of these 'speculators' or 'investors', with their professions, compiled by order of the House of Commons, contains:

peers and printers, vicars and vice-admirals, spinsters and half-pays, M.P.'s and special pleaders, professors and cotton-spinners, gentlemen's cooks and Q.C.'s, attorneys' clerks and college scouts, writers at Lloyd's, relieving officers and excisemen, barristers and butchers, Catholic priests and coachmen, editors and engineers, dairymen and dyers, braziers, bankers, beer-sellers, and butlers, domestic servants, footmen, and mail-guards, with a multitude of other callings unrecorded in the *Book of Trades*.

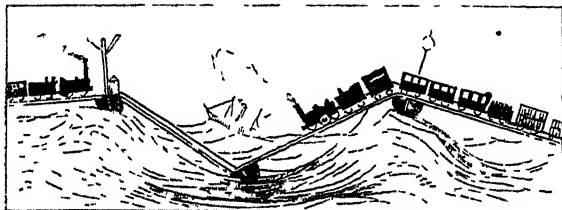
There was a sound that ceased not day or night,
 Of Speculation. London gathered then
 Unwonted crowds, and, moved by promise bright,
 To Capel Court rushed women, boys, and men,
 All seeking railway shares and scrip; and when
 The market rose, how many a lad could tell,
 With joyous glance, and eyes that spake again,
 'Twas e'en more lucrative than marrying well;
 When, hark! that warning voice strikes like a rising knell.

Nay, it is nothing, empty as the wind,
 But a 'bear' whisper down Throgmorton Street;
 Wild enterprise shall still be unconfined;
 No rest for us, when rising premiums greet
 The morn, to pour their treasures at our feet,
 When, hark! that solemn sound is heard once more,
 The gathering 'bears' its echoes yet repeat—
 'Tis but too true, is now the general roar,
 The Bank has raised her rate, as she has done before.

And then and there were hurryings to and fro,
 And anxious thoughts, and signs of sad distress,
 Faces all pale, that but an hour ago
 Smiled at the thoughts of their own craftiness.
 And there were sudden partings, such as press
 The coin from hungry pockets—mutual sighs
 Of brokers and their clients. Who can guess
 How many a stag already panting flies,
 When upon times so bright such awful panics rise?

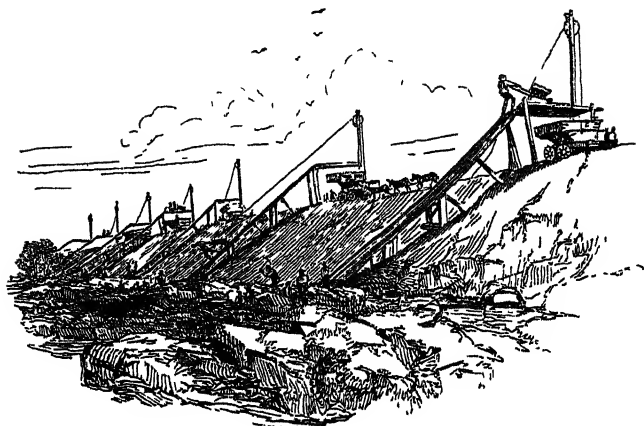
The inevitable slump came, and matters were only settled on a firm basis when the various railway companies published their

ROYALTY, THE GOVERNMENT AND THE SPECULATORS
accounts. But the country was saddled with many unnecessary and unprofitable lines which the larger companies were forced to take over. It is probable that railway finance still suffers from this early burst of dishonest extravagance.



The ups and downs of the Railway

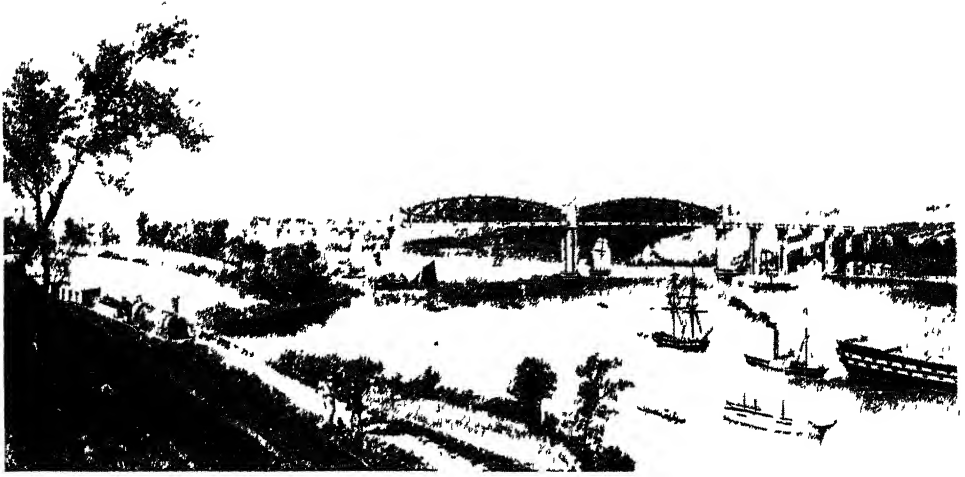
ENGINEERING FEATS



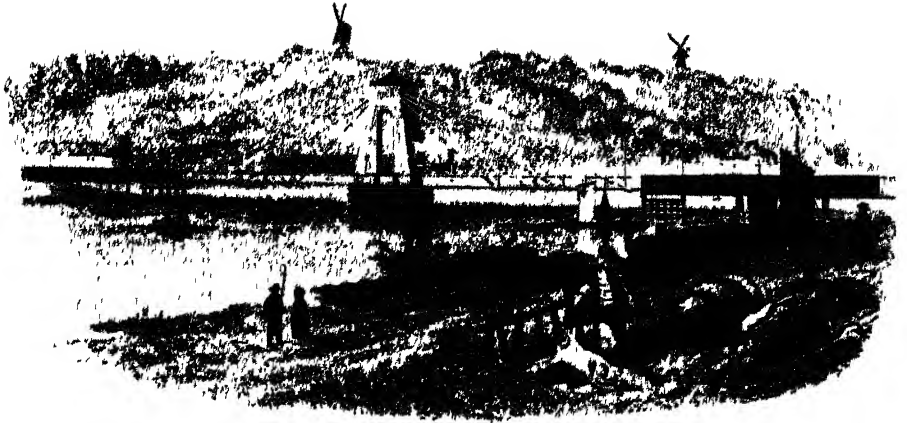
The engineering feats in connection with the building of the first railways were not hailed as merely material triumphs. 'They were', Britton wrote in 1837, 'about to fertilize the intellectual as well as the material waste', not only was the actual map of England going to be changed, but the whole of men's lives. Great new bridges of iron, viaducts and embankments, spanning any and every valley or marshy plain, cuttings of a length and depth hitherto unknown, tunnels of undreamt of length, all these savoured far more of magic than of reality. They belonged rather to the realm of fantasy than of actual fact. From such unheard of upheavals anything might come.

There was a whole new world open to the artist, not only in the altered face of the country but in depicting the changes as they happened, in showing the railways in the making, the engineering feats themselves. Bourne almost at once produced his wonderful series of lithographs, a perfect combination of accuracy and artistic

Saltash Railway bridge was one of the chief engineering feats in the South-west. Completed in 1859, it remains to-day a perfect example of a bridge of its kind.



Novelties, such as the swing bridge at Rye, made a great impression. One of the chief problems of the railways was to cross the existing roads and waterways with as little inconvenience and expense as possible.



The railway age is also the new iron age, and the viaduct at Fawcett was the forerunner of many of the mass bridges that span the great valleys of America. Man, accustomed for so many years to the simple arches of the stone or brick bridges, marvelled at the distribution of the strain and the slender appearance of the new metal.





27 *The embankment at Wolverton, when it was only partly completed, showed the dramatic change in the landscape that the railways were effecting. The railway pioneers did, in fact, move mountains.*



28 *The tunnel through the Shakespeare Cliff at Dover was one of the most dramatic feats of railway engineering, partly owing to its picturesque situation, but also from the strategic importance of a railway at Dover.*

perception, and Britton some accompanying descriptions of the accomplished facts full of picturesque charm and delightful detail; others followed, and in the woodcuts especially produced prints of great beauty, never self-conscious or affected.

Simple, honest, practical men, whose idealism was always harnessed to the work they had in hand, stood firm in their belief in the new railways. As early as 1760 the ironworks at Coalbrookdale laid down rails though there was yet no steam engine. Iron was cheap and there was a danger of over-production, yet the furnaces must be kept going. Why not make rails, lay them for the horse-trucks to run on, and then, when iron rose again, sell them as pig-iron? This was done, and by 1811 South Wales alone had 180 miles of rails, which was a great economy in horse labour. It was true that there were no buffers, which proved a serious inconvenience when the steam engine made traction faster, but, though the wagons knocked together and the coal was often thrown out, it was better than the rough roads with their deep furrows and constant need of repair.

Some of the pioneers had little general education. George Stephenson found it difficult to write his business letters, but Thomas Langridge Gooch, who had been apprenticed to him since he was sixteen, wrote them for him. Before very long Gooch was with George Stephenson when he was engaged on the Liverpool and Manchester Railway. In a neat nineteenth-century hand, so different from the flourishes of the eighteenth century, Gooch tells us his various experiences—How the Duke of Rutland refused to give way and let the railway line follow the natural course of the valley, and how the Duke of Devonshire came forward and offered that the line should go through his Chatsworth Estates.

Perhaps the most significant passages in the Gooch manuscripts are the concluding paragraphs:

'Not a penny, I am thankful to say, was ever accepted by me from contractors or other illegitimate source—Thus God prospered my professional efforts, and raised me, through that channel alone, from an apprentice boy with a shilling a day to most ample competence.

'But while He thus cared for me, I am conscious of having grievously neglected Him—not only by the frequent transfer in times of pressure of His day of rest into one of work; but, I fear I must add, by a very sceptical recognition of His revealed work. Praised be His name! for having in the time of failing health led me to see my great need of His help, and fully to accept my Saviour.'

Each railway battled with its own difficulties, and showed the world with pride its own peculiar achievements. The selection of the routes was one of the chief difficulties. Towns sprang up on the new railways, others faded into insignificance because the new railways did not pass them. Intermediate branches off the main lines were some time in coming.

In Scotland sharp curves were an especial difficulty, though, as animals leaned naturally as they went round curves, the railway trains could lean too. Yet there were few trains amongst the picturesque Highland scenery and many adventures in laying the lines, and subsidiary Scotch railway companies were numerous. The change, however, was perhaps even more striking than elsewhere. Every man in the Highlands was essentially a jack of all trades; up to the end of the eighteenth century the men made their own shoes and the women extracted dyes for their clothes from the herbs of their own growing. The railways altered all this.

In the South of England there were other difficulties. Near Windsor the railway had to provide police at frequent intervals to prevent the Eton Schoolboys going near the lines. This question of policing the railways was always a matter of grave expense. The

London and Birmingham claimed that on their line the police arrangements were more complete than on any other line.

Throughout the journey travellers will have observed a number of policemen stationed along the railway,—who not only prevent intrusion, but are charged with the important duty of keeping the road free of obstruction, and making signals as the train passes. The police are placed along the line at distances varying from one to three miles, according as local circumstances render it necessary. Each man has his beat and duties defined, and is provided with two signal flags, one of which is red and the other white: the white flag is held out when no obstruction exists, and, on the contrary, the red flag indicates that there is danger, and that the train must not pass the signal till it is ascertained that the cause of danger is removed.

Each policeman, also, is furnished with a revolving signal lamp, to be used after dark, which shows, at the will of the holder, a white light when the line is clear, a green one when it is necessary to use caution, and the speed of the train be diminished, and a red light, to intimate the necessity of immediately stopping.

There was also the long continued battle between the Broad and Narrow Gauges which lasted for nearly half a century. On June 4th, 1892, *Punch* published an amusing cartoon of The Burial of the Broad Gauge:

No useless tears, though we loved him well!
 Long years to his fire-box had bound us,
 We fancied we glimpsed the great shade of Brunel
 In sad sympathy hovering round us

The railways had many difficulties to contend with which had little directly to do with their construction. The engineering costs, great as they were, and in some cases double what had been anticipated, were by no means the only great expense. The Parliamentary and legal expenses that the early railways had to bear were enormous. The statistics of these Parliamentary and legal costs are almost beyond belief; these often came to many thousands per mile of railway, and to give only one example, the early South Eastern Railway spent in one year alone a quarter of a million pounds on

solicitors' fees. Matters like new slip-carriages, the floating railway in a tidal estuary like the Forth, or, later, the Grosvenor Hotel, built over a pool that terminated the canal which flowed by the side of the line at Victoria, all these dwindle into insignificance when compared with the legal costs with which the railways were continually and most unfairly burdened.

Of the actual engineering feats we have many simple and intimate descriptions. 'The Tring Excavation', Roscoe writes:

is about two miles and a half long. The strata through which it was cut are composed of the lower or grey chalk formation, without flints. It averages forty feet, and for about one quarter of a mile is fifty-seven feet in depth. Out of this hill were taken one million and a half cubic yards of earth, which had to be lifted to the surface,—a height of forty feet,—and then deposited in spoil banks. It was executed by means of a number of 'horse runs', so called by excavators, from the men being drawn up planks nearly in a perpendicular position, by horses. A rope is attached to the front of the barrow containing the soil, while the excavator takes firm hold of the handle, and both barrow and man are drawn up the plank,—the latter having his body nearly horizontal during the ascent. It is a fearful practice; and should any accident occur, by the breaking of the rope or restiveness of the horse, the workman is precipitated to the bottom in an instant. During the progress of the excavations many impressions of fossils were found, chiefly common oysters, nautili, ammonites, etc., also many concretions of iron pyrites, which were always found of a cylindrical or spherical form, with a radiated structure in their fracture. In a small portion of the cutting in gravel or alluvial deposit, above the chalk, and at about fifteen feet deep, were found the tusk and teeth of an elephant.

At the Denbigh Hall Excavation bones supposed to be those of animals buried at the time of the Great Plague were discovered, and at Blisworth fossils were again found. Of the making of Blisworth cutting we have Osborne's tragic description:

We are now in Northamptonshire, and at the end of the embankment, which is in places upwards of forty feet high, the line passes through the village of Ashton, which is divided by it.

From the embankment we can look down on the thatched cottages, of which the village is composed, and the humble church on the left; and while the

traveller securely rolls with a delightful velocity, by which he has passed through whole counties in the short space of a few hours, little does he think of the sacrifice of life and happiness that was made in the attainment of the means for his present rapid course. The bridge, under which is the road communicating the two parts of the village, has been during the progress of the works, the scene of several calamitous accidents, in bringing down the stone and clay from the Blisworth Cutting in trains, for the construction of the embankment. At dinner time the men used to ride down the Blisworth works on the loaded trains, and if a waggon slipped from the rails, its contents of stone and workmen would be precipitated, in a heterogeneous mass upon the ground, when, of course, the most rueful consequences resulted. An instance of this kind happened at the time when the editor of this work was engaged in collecting matter to form its contents, which was strikingly illustrative of the recklessness of life and daring hardihood of the British labourer. A few days prior, a severe accident, accompanied with loss of life, had occurred in this place; yet, nothing daunted, the men, instead of walking to their dinner, came riding down on the trains. A similar catastrophe was the result. several waggons were thrown off the rails; one man was completely buried under the masses of limestone, and several partly so. One stalwart navigator disencumbered himself from the heap, and feeling his arm, said, addressing a more fortunate comrade 'It's broke, by G—d! I mun go home.' He waited for a short time to ascertain the amount of evil inflicted on his fellow-sufferers, and then supporting his broken arm with his sound one, accompanied by a friend, strode off homewards. his cottage was six miles off! A fine, handsome youth, who had his foot pulverized into a shapeless mass of flesh and bone, bore his fate with less fortitude, and cried bitterly. A rough-looking fellow, who stood by, and seemed to be a sort of foreman among the workmen, took his pipe from his mouth, spat out, and in a blunt advising tone said, addressing the boy, 'Crying i'll do thee no good, lad; thou'dst better have it cut off from above the knee!' A number of the village women came upon the bank, each evincing a great desire to touch with their fingers the mangled limb. A man who was buried under the heap, on being taken out, asked for a little cold water, and soon shewed symptoms of internal bleeding, that gave the bystanders the conviction that his organization was incapacitated to sustain life much longer. In the course of a quarter of an hour a cart was obtained to convey these two poor victims to a neighbouring hospital.

The books written soon after the formation of the early railways are full of these graphic accounts—the astonishment caused by the blastings, the 'stupendous cuttings' near Tring, the wonderful use which was made, in an incredibly short time, of the soil taken from

cuttings to form embankments, the difficulties of stopping landslips. The Tonbridge School cricket field of to-day owes its existence to one of these railway excavations.

The illustrations, even in the newspapers, more than kept pace with the text, the vignettes are delightful, the engraving of 'The Excavations near Camden Town', in Roscoe's *London and Birmingham Railway*, with the tall chimneys of the stationary engine house in the middle distance, is a delightful blending of picturesqueness and of fact; and of the more important prints Bourne's lithograph of Berkhamstead in 1838 leaves nothing to be desired.

The excavations are in many instances merely precludes to a tunnel, and the construction of these has left many stirring accounts of heroism and endurance and also again some beautiful lithographs by Bourne. We must not forget that the work progressed by dip candles and in the face of constant danger, nor in the security of modern travel must we ignore such early adventures as the wonderful pumping feats at Bramhope, on the Leeds and Thirsk Railway. Such feats paved the way from the modest road tunnels and the more impressive Thames Tunnel, that had existed before, to the great tunnels under the Severn and the Mersey.

Of Kilsby Tunnel, with its picturesque mouth and well-known castellated ventilating shaft, Roscoe gives us a graphic little description:

An inspection of this mighty effort of skill and ingenuity fills the mind with wonder and admiration.

The entrance fronts at either extremity of Kilsby Tunnel are similar in design and execution. They are built of stone, in the castellated style, but without embrasures, all the members being of an exceedingly massive character; and consist of one huge tower, with battering sides, and a bold plinth. The arch is encompassed by a projecting bead of stone, which cuts down upon the plinth; while the wing walls are thrown back, whereby the tower is made the principal object, and adds greatly to the effect.

But this picturesqueness was only achieved by prolonged and courageous human effort.

The Kilsby Tunnel is about 2,423 yards long, and was intended at first to be formed eighteen inches thick in the brickwork; but it was found necessary to increase this, in most cases, to twenty-seven inches. The whole has been built in either Roman or metallic cement.

The works were commenced in June, 1835, by the contractors, but such serious difficulties were met with, at an early stage of the proceedings, that they gave up the contract in March, 1836, and nearly the whole work has been performed by the Company. Previous to the commencement of the works, trial shafts were sunk in several parts of the line of the tunnel, in order that the nature of the ground through which it would have to pass might be ascertained; and it was found to be generally lias shale, with a few beds of rock—in some places dry, in others containing a considerable quantity of water.

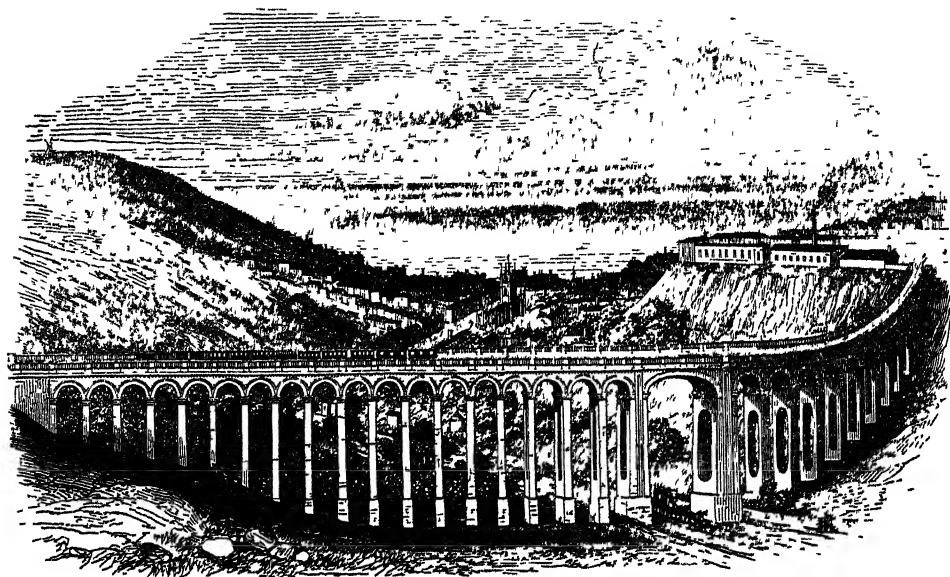
In sinking the second working shaft, it was found that a bed of sand and gravel, containing a great quantity of water, lay over part of the tunnel; and this was such a perfect quicksand, that it was impossible to sink through it in the ordinary way. By repeated borings, in various directions near this part of the tunnel, the sand was discovered to be very extensive, and to be in shape like a flat-bottomed basin, cropping out on one side of the hill. The trial shafts had accidentally been sunk on each side of this basin, so that it had entirely escaped notice until the sinking of the working shaft.

Mr Stephenson was led to suppose that the water might be pumped out, and that under the water thus drained the tunnel might be formed with comparative facility, this proved to be the case. Engines for pumping were erected, and shafts sunk a little distance out of the line of the tunnel. The pumping was continued nearly nine months before the sand was sufficiently dry to admit of tunnelling, and during a considerable portion of that time the water pumped out was 2,000 gallons per minute. The quicksand extended over about 450 yards of the length of the tunnel, and its bottom dipped to about six feet below the arch.

The bridges and viaducts were also, in their way, daring and wonderful engineering feats, and they made a unique contribution to the English landscape, which was reflected in the prints and pictures of the period.

The viaducts were, perhaps, the most impressive. They were the descendants of such beautiful aqueducts as that at Pontcysyllte, and

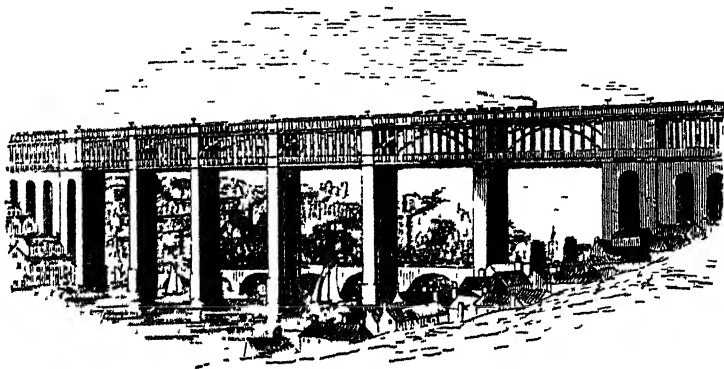
some have a great similarity to it. One of the earliest railway viaducts, the Sankey Viaduct, on the Liverpool and Manchester Railway, was a structure of brick with stone facings, restrained in the decorations and suggesting its function admirably. Later the railways became more conscious of the beauties of their viaducts.



Brighton Viaduct.

‘The Aker Viaduct is now passed’, writes the author of *The Midland Counties Railway companion*, ‘which for size and beauty is scarcely surpassed by any in the kingdom; it consists of eighteen segmental arches, of thirty feet span, and one noble oblique arch of sixty feet span. It rises to the height of twenty-three feet above the bed of the river, and the frontage being of beautiful stone, in the placing of which much architectural skill has been displayed. The Polesworth Road passes beneath the principal arch, and from thence the sight is imposing in the extreme. Our readers will scarcely credit it, when we inform them that £18,000 was spent in the crection of this elegant specimen of modern ingenuity.’

All over the country the railway viaducts became a source of pride and admiration. The river Avon, not far from Rugby, is spanned by 'a magnificent viaduct of nine arches, which does not in the least destroy the scene along the valley'. The viaduct over the River Colne, near Watford, is 'of gigantic character'. The Spey Viaduct on the Inverness and Aberdeen Junction Railway is a thing of great beauty. The lofty viaduct in the Vale of Llangollen forms the



The High Level Bridge at Newcastle

attractive frontispiece to *Our Iron Roads*, while the viaduct over the Ouse on the London and Brighton Railway is one of the largest in England. Although iron bridges had been in existence for years, Brunel greatly favoured timber viaducts, and his famous wooden bridges in Devonshire and Cornwall had wonderfully lasting qualities. Wooden bridges were by no means uncommon: these were the wooden viaduct of the Atmospheric Railway at Croydon, the oblique wooden bridge at Bath, and the timber bridge at Bugsworth. There were also many comparatively minor wooden structures, such as the two picturesque viaducts near Bourne End, one over the Thames and the other over an adjacent meadow liable to floods. The rapid progress of iron soon, however, caused a revolution in bridge building over both small and large rivers, and we have by no means unsightly small iron bridges at such places as Bourne

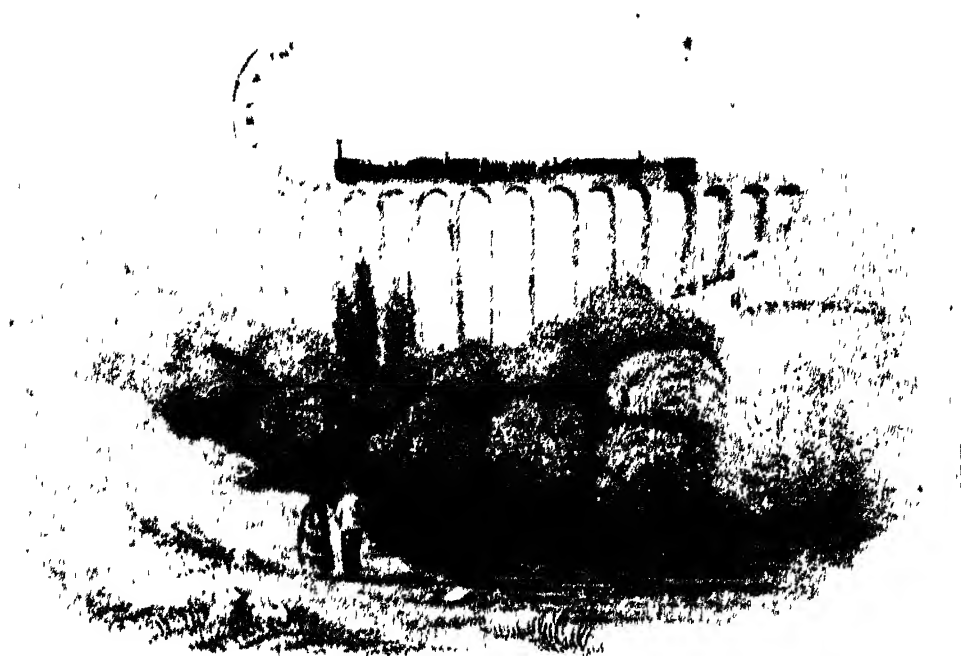
End and over other reaches of the Upper Thames. Stephenson's first iron bridge, for a railway strangely primitive in appearance, soon had many descendants.

But before iron became popular many very important railway bridges were built: there was Stephenson's Royal Border Bridge, at Berwick, which cost £120,000, the cost of the bridge over the Tweed, built in James I's and Charles I's reign, and taking twenty-four years, being only £15,000; and there was Brunel's wonderfully beautiful red brick bridge at Maidenhead.

Numberless smaller railway bridges were built, 'exceedingly elegant in their proportions, the trains as they pass over presenting a remarkably picturesque object'. Many were over or under roads, for the railways had to be careful that the roads were not disturbed. The railway bridge over the road near Fenny Stratford is not unpleasing, nor is the railway bridge which takes the railway under the road at Loughton, near Wolverton, and the ornate castellated bridge, in the Elizabethan style yet with ornamented iron spandrels, over which the railway crosses the road from Rugby to Lutterworth, has a peculiar charm of its own. 'The bridge which crosses the Lutterworth road', Roscoe writes, 'is an elegant structure, erected in the style of architecture of the reign of Queen Elizabeth. It consists of a flat gothic arch of cast iron, with ornamented spandrels abutting upon octangular towers of brick, with stone dressings, beyond which on either side are three smaller arches of brick, with buttresses between them, and the whole is surmounted with a parapet wall standing upon a bold stone moulding, which is carried through the whole length of the bridge. It is a beautiful specimen of workmanship; but the effect would probably have been much heightened if pinnacles had been placed on the tops of the buttresses, thereby breaking the long line of parapet wall at that part which, in some degree, at present offends

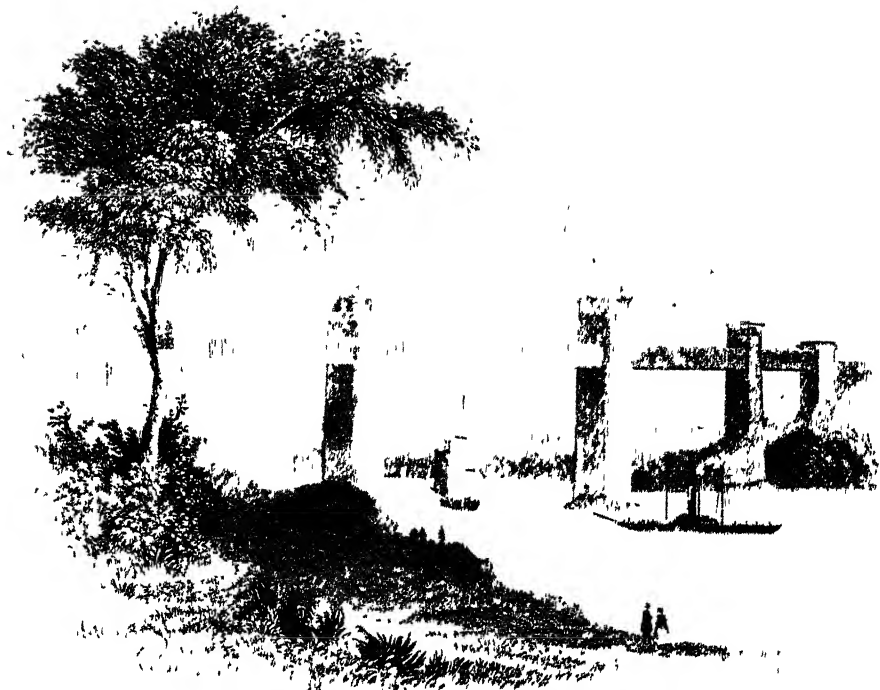


51 THE EXCAVATIONS NEAR CAMDEN TOWN IN 1856 *The early railway cuttings were almost incredible achievements when one considers how little machinery was used*



COLLECTOR

52 *The stone viaduct at Folkestone had a special grace of its own, and it was such structures that persuaded the Victorians that railways were not going to spoil the landscape*



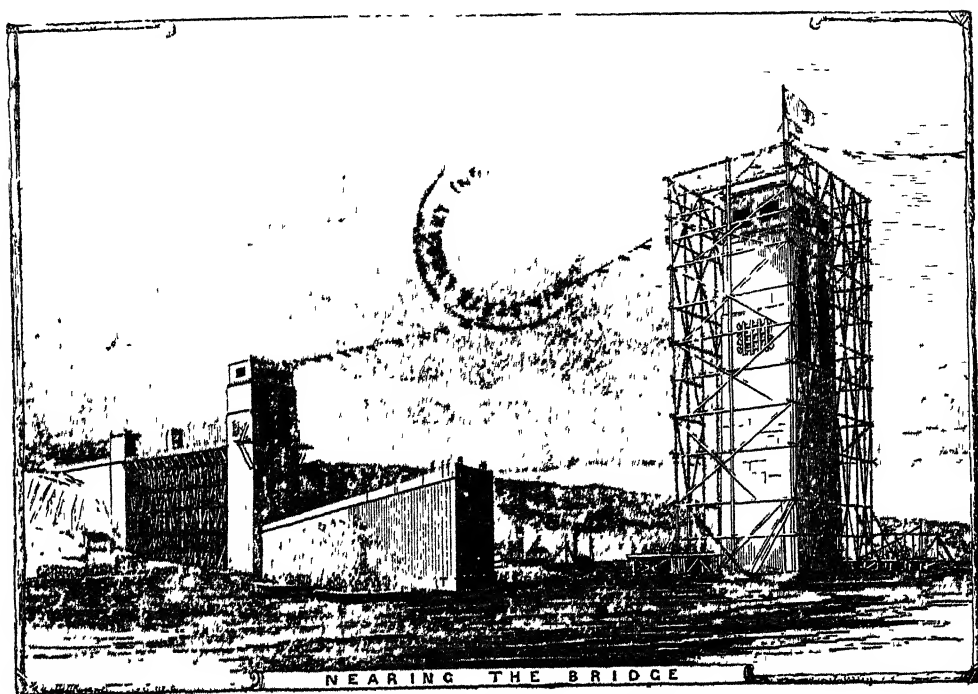
33 One of the greatest marvels of the early railways was the gigantic bridge over the Menai Straits, built in 1846-1850. The trains passed to and fro through two metal tubes.



34 When the Conway Bridge was built in 1849, the Victorian appreciation of the picturesque was at its height, and the supports of the great tubes were made to look strictly in keeping with their surroundings.

the eye: the extra cost to the company would not have been great, especially as it is reported that the trustees of Rugby School,—which stands not far distant,—contributed £1,000 towards its erection, in order to preserve the style of architecture of their own foundation'.

The early iron railway bridges have a separate and most interesting history of their own. There was an iron railway suspension



The Menai Bridge under construction.

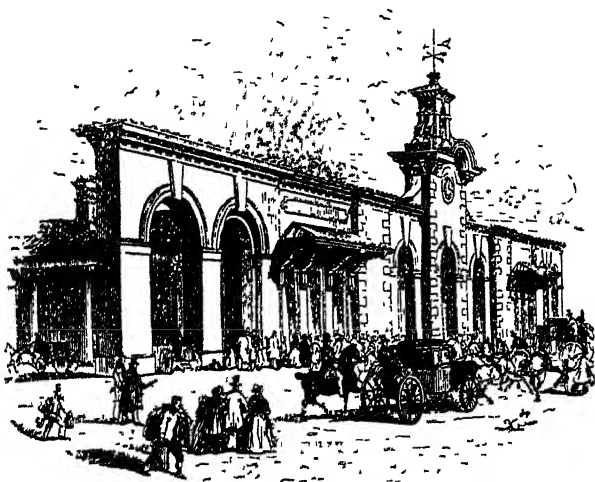
bridge over the Tees near Stockton, as early as 1830, but this was not followed by other railway suspension bridges; in 1847 there is an interesting early truss bridge on the East Anglian Railway across the Ouse at Hilgay Fen. The first great iron bridges were soon the wonders of the world, especially the huge tubular bridges—that 'Herculean Monster', the 'Britannia', and the 'Conway'. There were others as wonderful—Robert Stephenson's High Level Bridge at Newcastle-upon-Tyne, the Great Western masterpieces at Saltash

and at Chepstow, and the small one at Windsor, and many lesser bridges, such as the Trent Bridge, to carry the Sawly Junction Railway to Leicester, which was completed about 1840.

The simplicity of their design was one of their most striking features. Of faked decoration, pretending to fulfil a purpose which did not exist, there are comparatively few examples amongst the early railway bridges. Occasionally 'supports' are added at the entrances to a truss bridge merely for appearances' sake, and which in reality support nothing, and there are occasionally such decoration as the useless spandrils which existed on the telescopic bridge over the Arun to give an appearance of an arch when the bridge was open across the river; but happily such instances are rare. As a rule the great engineering feats speak for themselves, their beauty is the beauty of achievement, of a task simply and unaffectedly performed. Such, for the most part, are the viaducts and bridges, the cuttings, the embankments, and the tunnels made by the railways, and if occasionally an embellishment is added it is merely a pardonable gesture of pride, and seldom suggests anything foreign to the original purpose which was in the minds of the engineers.



THE LONDON TERMINI AND RAILWAY HOTELS



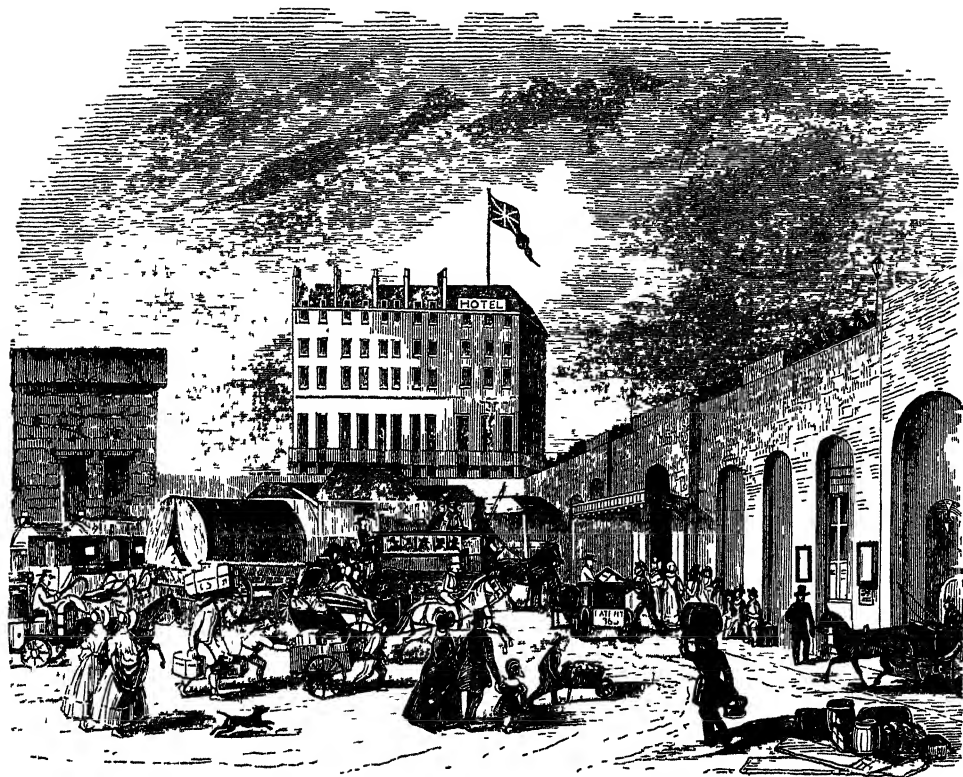
The Bricklayers' Arms, opened May 1844.

The earliest prints of the London Platforms show them as primitive but not unattractive landing places from the train. The shed-like roof of the platform, which must have afforded a somewhat unsatisfactory shelter from the weather, had only slender supports terminating at the top in simply decorated little brackets; the approach to the station, even when, as at Waterloo, it had to be especially constructed, up a sharp gradient, was nothing but a simple road. In some respects they recall the seaside landing places for travellers from the Continent, a necessary but very temporary convenience from which the passengers hurry as soon as possible.

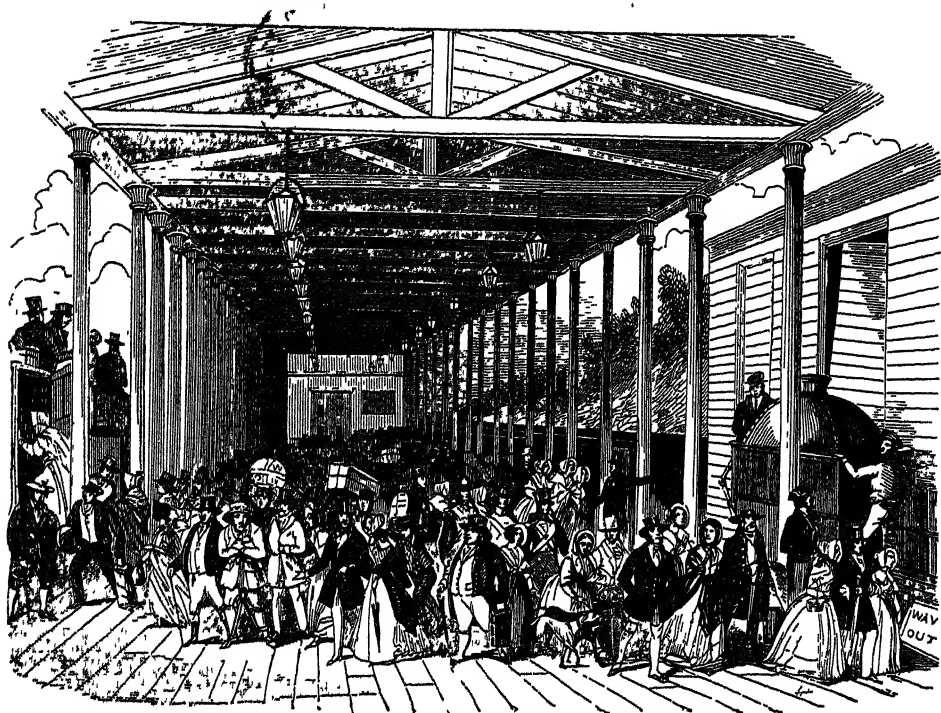
But railways soon became self-conscious, and the change was sudden and remarkable. The station became a thing of enormous pride and importance, the station itself, as well as the railway, one of the wonders of the age. The platforms were at first referred to as

'Parades' or 'Promenades', and Osborne has a delightful description of a passenger embarking on a railway journey from Euston—Coming out from the Entrance Hall, after obtaining your tickets from clerks 'displaying the usual bustling but rather more methodical than their professional brethren at the coach offices', the terminus of the railway is seen. 'At each side is a Parade, elevated to the level of the floor of the carriages, standing on the rails.' Scarcely has the train been attached to the 'endless rope' to be drawn up the inclined plane to Camden Town, whence it can proceed on its own steam, than 'the signal bell rings and the policemen explain its meaning by shouting "Take your places, ladies and gentlemen". When all those who have loitered on the Promenade have hurried to the carriages assigned to them, the phrase "All right!" is heard, and the train moves gently down the "terminal plane", which helps to start the train or to check it on coming in.'

Although at one time there was a plan for fixing the London terminus of the London and Birmingham Railway near Hyde Park, with the line parallel with the Edgware Road, Euston Square was decided on; and in London Euston took the lead with its immense gateway in the Grecian Doric style, flanked by almost equally impressive lodges. Architectural purity was not ignored. Here, a contemporary writes, were 'no sash windows peeping out between Doric columns, nor Doric porticos tacked on to a building of different physiognomy'. Though the spirit that inspired this great archway evaporated soon after it was completed, the Great Hall, the General Meeting Room and the other Committee Rooms are magnificent specimens of the architecture of the period, and have a dignified beauty well worthy of the great undertakings that they so nobly housed. They represented not only Engineering benefiting mankind, but Architecture and Art as well; contemporary writers, in extolling their beauties, quoted *The Seven Lamps of Architecture*,



Exterior of the Great Western Railway Terminus at Paddington, 1843



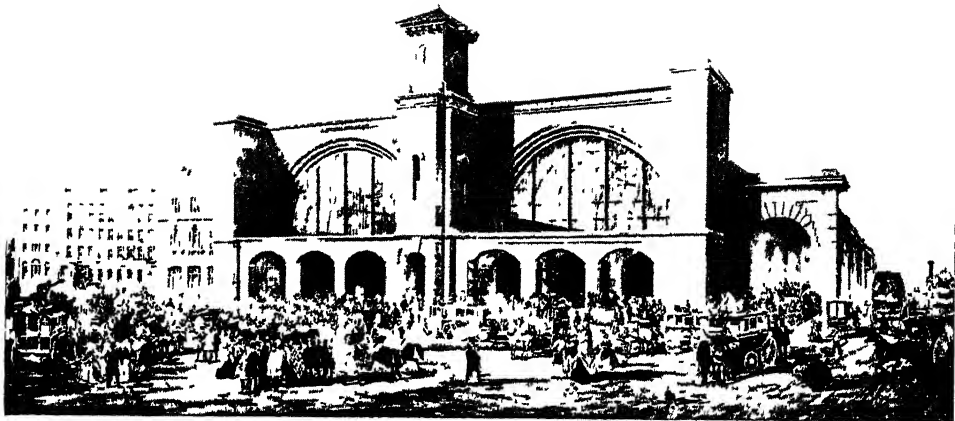
Interior of the Great Western Railway Terminus at Paddington, 1843

and 'further elucidated Mr. Ruskin's views'. The idea that the railways would spoil London began to die down.

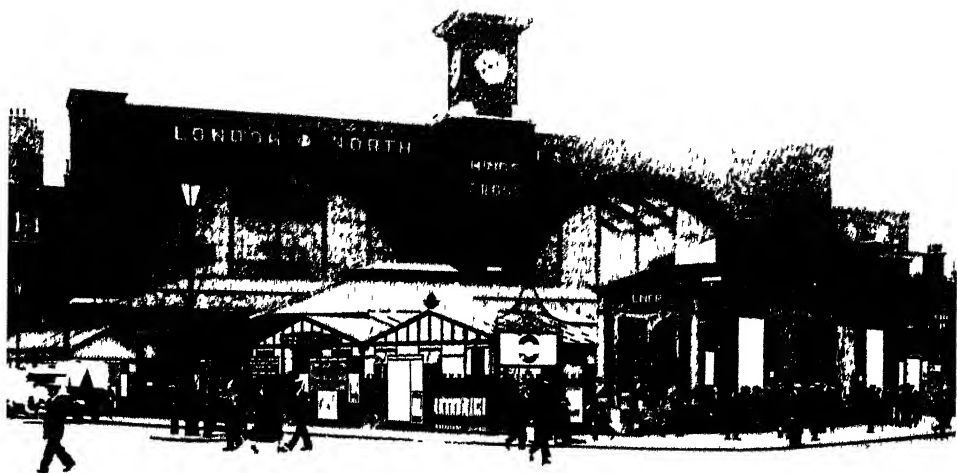
Later St. Pancras Station was as imposing, but in a very different way. There is nothing nobly simple about its huge fussy red frontage with its hundreds of highly decorated pseudo-Gothic windows, and yet Sir Gilbert Scott's work has a curious Victorian dignity of its own and, like Euston, will never, and can never, be repeated, for the rather naive enthusiasm that inspired it is no more. Though the front of St. Pancras, originally intended for the new Law Courts in the Strand, lacked one story of its intended height, the hotel was probably one of the largest in England, and we can picture the wonder of its first appearance. The elevation fronting the station is the same as that facing the road, and the roof of the station itself was a source of great pride. It was 'the widest span of any roof in existence; the space beneath is unbroken by ties or braces, common to all others, its style is "Subdued Gothic". The interior of the station is decorated with a tessellated frieze, inlaid with Minton's coloured tiles, the iron casting is of floral design'. The interior and exterior were in perfect unison.

King's Cross, in its comparative simplicity, is a contrast both to Euston and St. Pancras. Copied from the Riding School of the Czar of Russia, its façade would be delightful if it were not now partly blocked out by a jumble of mean buildings. The clock, taken from the Crystal Palace when it was removed to Sydenham from Hyde Park, makes a fitting centre piece to the two arches. The whole is practical and early Victorian and pleasantly welcoming, suggesting a railway terminus far more than its two more striking neighbours.

The stations in the South of London, which formed termini of the railways that served the South of England, have had a more varied history. The opening of the first London Bridge Station had to be a grand affair, and it was delayed until December the 14th,



35 King's Cross as originally built in 1851, and free from obstructions. It expressed its purpose with admirable and unaffected simplicity.



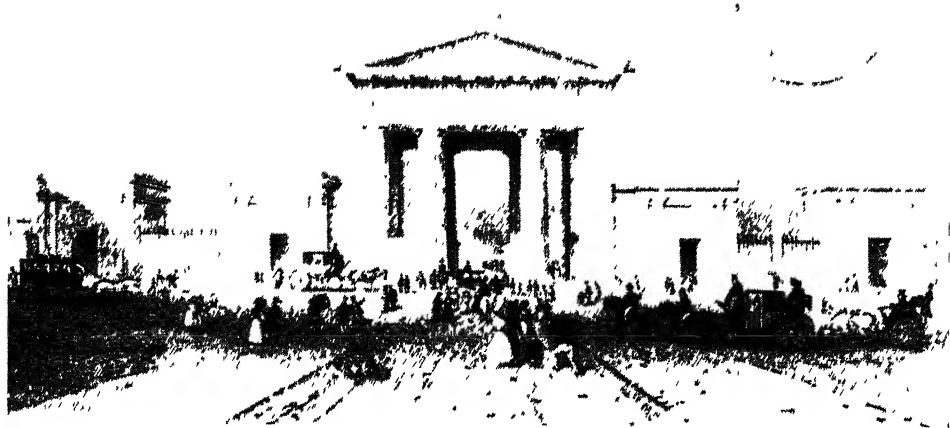
36 King's Cross as it is to-day. Succeeding generations with a baser commercial outlook have cluttered up the noble front with a mean assortment of penthouse structures.



37 *The frontage of Nine Elms was, and still is, very attractive—though the station is now entirely given over to Goods traffic*



38 *The first London Terminus of the Brighton Railway had a dignified lightness about it which suggested both the importance of a London station and a journey to the seaside*



39 *The great classical portico of Euston was one of the wonders of the Age. It was the Gateway to the North, far more impressive than any posting house had ever been.*



40 *Behind the grand façade of Euston were the sheds for the arrival of trains, conceived in a less impressive spirit. Those seen in the print are still in use to-day.*



41 *The railways played a considerable part in changing the town views as well as the countryside. The terminus of Cannon Street, opened in 1866, and not unlike that at Charing Cross, was impressive and yet full of the busy commercial spirit of the age.*



42 *AN EARLY CHROMOGRAPH OF THE INTERIOR OF CHARING CROSS. The vast interiors of the railway stations were one of their most imposing features, and in the early morning with the sun pouring through their glass roofs they present something of the dignity of a great cathedral.*

1836, when bands and personages all duly assembled. The simple little frontage, which replaced the original shed-like structure, and which was known as the London Station of the Brighton Railway, had a quiet charm of its own. But it did not last for long. The frontage was not built, like the larger station that followed, at right angles to the railway lines, which terminated behind it, and the later structure, which still exists, was much more commodious. The present lower station at London Bridge was the terminus of the original London and Greenwich Railway.

London Bridge, however, was not a suitable site for a large London Station. It was surrounded by streets, hospitals and other buildings, all much too near to admit of any very extensive enlargements. Much of the traffic soon went to the Bricklayers' Arms (now a very important Goods Station), of which there is an attractive print in the Illustrated Guide to the London and Dover Railway. The company erected there a pleasing façade, lately burnt down, but a long time before the fire the passenger terminus had been replaced by Victoria Station.

In the Station Hotels which form the fronts of Paddington, Charing Cross and of Cannon Street, and the sides of Victoria and London Bridge, we have mid-Victorian architecture in full bloom. Paddington is, perhaps, the quietest, in certain features vaguely suggesting Barry's influence, and Liverpool Street, if it had been built as it was planned, would have possibly been one of the least ornate, but they are all of the same style of architecture, and one which it is difficult to describe. It was said of Paddington that a Palace had sprung up, and its style was a mixture of Italian and Arabesque, and that is perhaps its best description. Whatever may be felt about such architecture, at Paddington, at least, the hotel and offices blended pleasingly with the station itself. To pass from the hotel into the station, that wonderful example of Brunel's

foresight, either when it is flooded with the morning sun, or, later, when it is overwhelmed with something of the bustle of Frith's famous picture, is an experience which lingers in the memory and makes railway travelling something more than a mere necessity.

The London Station Hotels had, and still have, a distinct position of their own. Surrounded by so many other hotels in every direction, they lack the predominating importance of many of the Station Hotels in provincial towns: they are not, like the hotels at Bradford, Leeds, Sheffield or York, well-known meeting places for commercial travellers. They are more like the Station Hotels at Edinburgh or the smaller hotels at Perth or Inverness, and from the beginning each hotel had a peculiar social atmosphere of its own. As a fashionable resort the Grosvenor Hotel at Victoria Station took the lead, its noble hall, with its classical pillars, fine staircase and gallery above, all painted in pale 'Adams' colours, is a feminine version of the Reform Club. The Charing Cross Hotel had a more cosmopolitan air, but its atmosphere reflected the tone given it by its beautiful and stately staircase, with its finely graduated steps.

The Great Western Royal Hotel at Paddington was managed, when it was opened in 1854, by the late Steward of the Union Club, and to this day it in some respects resembles a West End Club. The hall porter and the head waiter, in spite of the impersonality of modern innovations, still recognize many of the visitors and greet them with something of the dignified deference of an accomplished butler. There were habitués and casual but well-known visitors, recognized by all the staff, the servants stayed there most of their lives, and took a pride in the hotel and in those who used it. It was not exactly that the Station Hotels were exclusive, but there were certainly people who were very much at their ease in them, and there were classes who would never have dreamt of using them, even for light refreshment.



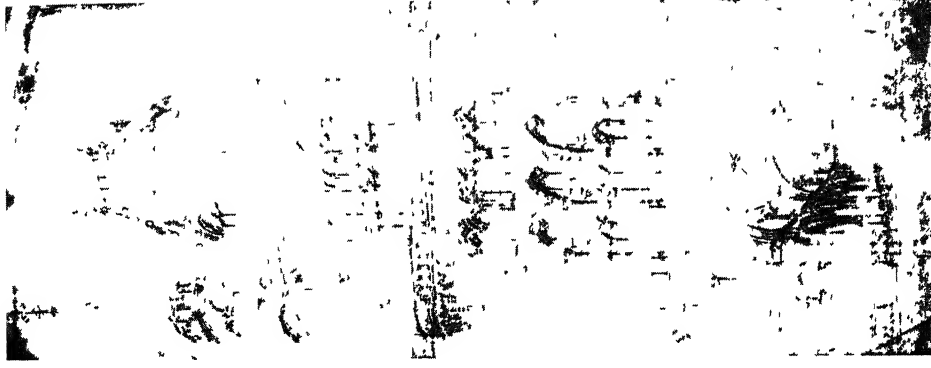
43 *The drawing room of The Great Western Royal Hotel as it existed for nearly half a century was one of the most typical of the Hotel rooms of its kind. Here the visitors sat as peacefully as in the drawing-room of a Manor House, or on the first floor of a mansion in Eaton Square*



44 *The dining room of The Great Western Royal Hotel was massive without being oppressive. It suggested the great railway builders, and the solidity of the Empire*



45 The interior decorations of Euston of the Great Hall, the Board Room and Committee rooms were as much a source of pride as the exterior edifices. The Great Hall with its fine proportions and stair case at the end dividing into two branches from an attractive half-landing, is probably one of the finest Victorian interiors in the country.

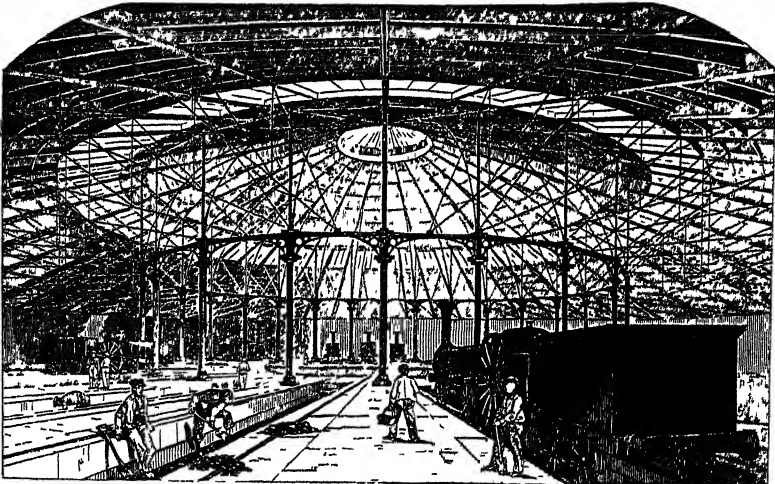


46 Sir Gilbert Scott's decorations to St Pancras are difficult to appreciate in an age which makes a fetish of simplicity. The quantity of decoration is so great the patterns so elaborate and intricate. Of its kind however, it is unique.

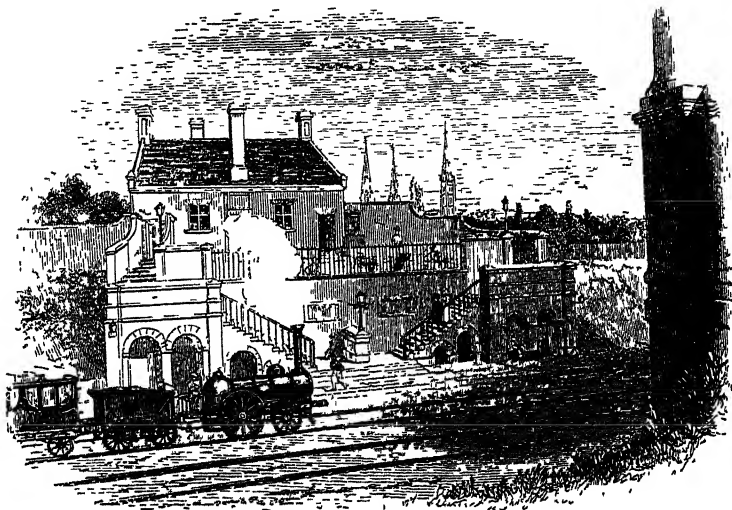
In its quiet Victorian sedateness, the Great Western Hotel at Paddington was unique. Before the recent alterations there lingered about it an atmosphere of serenity and security, that belonged to a gentler and more self-assured age. Those like myself who knew it well, especially at Christmas when a child, will never forget its Victorian comfort, what it meant to lie in bed with the distant whistle of the trains outside: to feel that the bustle of the station was there when you had the need of it, but that in the meantime it was none of your concern; to hear the confused murmur of life and activity in the station grow less as the evening turned into night. To light the little coloured candles of the Christmas tree on the same solid white bedroom mantelpiece on which it had stood each year, to see the glistening globes doubly beautiful in the mirror behind, seems to belong more to a dream than a memory. What a mature beauty the mirror's heavy gilt frame gave to the whole scene! How nobly it showed off the Christmas cards, pushed precariously into the gap between the beading and the glass, and the presents clustered temptingly at its base! And, when through the heavily braided curtains the morning came with its yearly excitements of carols and pantomimes, was not the renewal of life on the platforms outside, and that familiar smell of trains that came gently in, a perfect prelude to the bacon and eggs downstairs under the great semi-draped allegorical ladies with their arms full of the good things of the earth? Year after year one knew that everything would be the same, from the slowly moving, quietly smiling waiter and the bill of fare, with its sedate mixture of French and English, to the sprig of holly stuck jauntily into the ham. It would be a pity if the British Railways, the largest hotel owners in the world to-day, lost that subtle atmosphere, which in the past has made their hotels a temporary residence rather than a restaurant and a sleeping place.

Many of the earlier London Termini followed a simple but charming classical Renaissance tradition that gave them a dignified beauty. Like the early Paddington Station of 1845, or even the locomotive 'sheds' at King's Cross, they consisted mainly of a series of simple arches, pleasantly ranged together and lightly ornamented into a frontage, engaged columns and windows forming occasional variations. The slightly more ambitious arcade of Holborn Viaduct, the more anglicized Fenchurch Street, the badly hidden Broad Street, the homely London Bridge, so much used before Victoria Station was built, and Nine Elms, so important before Waterloo Station, all have most attractive elevations, very typical of the period.

The London terminus, however, whether it has an hotel attached or not, has necessarily lost much of its atmosphere. Railway travelling is not what it used to be: it is no longer an 'occasion' planned long before, and perhaps written or talked about afterwards, it is not a thing in itself, but merely a means to something else.



Camden Town Circular Engine House

STATIONS IN THE PROVINCIAL TOWNS AND
IN THE COUNTRY*Coventry Station*

Several of the early stations in the provinces reflected the classical tradition of Euston. The fact that a town was to have a railway demanded the most imposing edifice as a station, anything else would have been inadequate for so momentous an occasion. Providence had given man a new and marvellous means of transit, the Directors showed their appreciation by Doric porticos.

At the Birmingham Station 'four noble Doric columns' were supported on bases weighing eighteen tons each, which made the shed-like structures at the back, from which the trains left, seem very primitive. The pillars, with simple 'Renaissance' windows at the side, which added dignity to the station at Leicester, were less massive than those at the Birmingham Station, but they were none the less impressive.

The pride in every detail of these early stations is shown with a delightful naïveté in the Midland Counties Guide's account of Leicester Station in 1840:

In the central part of the front of the station is the booking-office, over which is the audit-office, occupying the whole of the range of windows under the portico. The entrance door on the left is for second- and third-class passengers, and the corresponding one on the right for first-class. The passengers enter the booking-office by the door nearest the entrance and, having obtained tickets, pass into the hall by another door, and from thence to the platform, the booking-office being divided into two parts by an elegant iron railing. On the left, opposite the booking-office door, is the Secretary's clerk's office; and opposite the door by which the passengers leave the booking-office, is a spacious stone staircase: at the top of which, on the left, is the Secretary's office, a very unique department, and tastefully fitted up. Next to it is the Secretary's waiting-room; on the right is the Accountant's office, and opposite to it the audit office, an extensive room, divided into different compartments for the clerks, by light and elegant partitions. The remaining room on this landing is the Board-room, the ceiling of which is beautifully decorated, and from the centre is suspended a superb bronze chandelier; this, and the other rooms on the same side of this story, communicate with the balcony, which commands an extensive view of the railway, from the London road bridge to beyond the bridge on the opposite side. The floor of this balcony is covered with asphalt, a preparation superior in appearance to lead, and equal in durability.

At Carlisle, or at Shrewsbury, we find Victorian Romanticism pleasantly uncontrolled, and almost every station had a character of its own. But the actual coverings to the platforms, often great engineering feats, still remained very simple, and even at important towns like Plymouth they were little more than coverings for the passengers, more like the landing at Gravesend Pier, or the Dundee Station, approached by a railway embankment down the middle of the river, than an inland station with endless possibilities. There was little at Dover in the arrival and departure platforms to suggest such a typically Victorian building, as the adjoining Lord Warden Hotel.

The approaches to the station, however, always aroused considerable interest, and it was fully appreciated that the view from



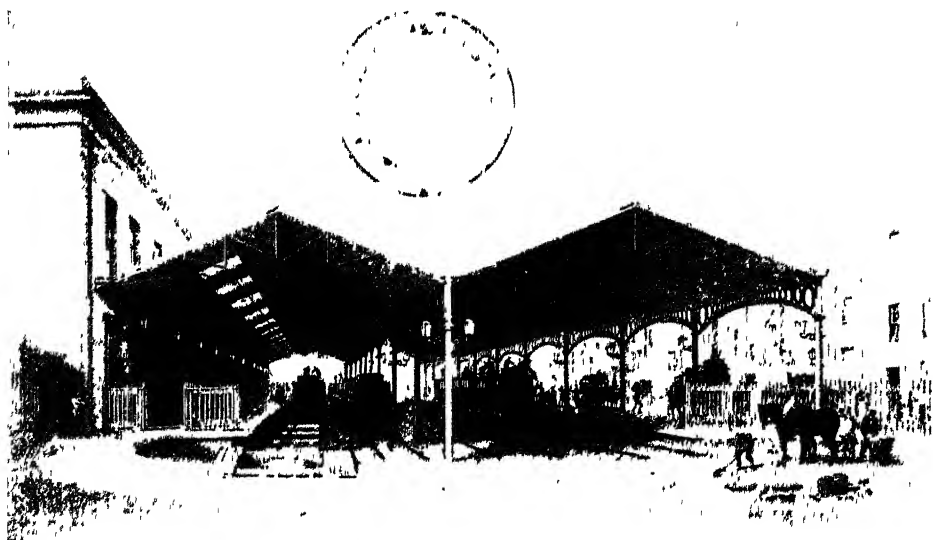
47 *The magnificent station frontage at Chester almost suggests a ducal palace*



48 *If Shrewsbury romanticism prevailed, and its station reflects the spirit of Sir Walter Scott*



49 *The London and Birmingham Railway had a dignified terminus at each end. The station at Birmingham reflected the Euston portico in a minor key.*



50 *Birmingham Station—the platforms. The primitive sheds, which formed the early arrival and departure platforms, are a curious contrast to the impressiveness of the architecture which faced the approach to the station by road.*

STATIONS IN THE PROVINCIAL TOWNS AND COUNTRY

the station yard, as the passengers alighted, gave the first impression of the town or country that they were visiting. Reading Station, with its small Station Hotel on the other side of a spacious yard, welcomes the visitor and still remains almost in its original condition. At Nottingham, 'the long shed or covering to the carriages hides the landscape at first entrance, but having walked through it the whole bursts on the traveller at a glance'. It is a pity that in later years the view on emerging from the station received so little attention and that, as at Oxford, the districts close to the station generally degenerated.

The new trains, however, often directly benefited the town: at Burton-on-Trent the width of one of the main streets was doubled owing to the railway. In the smaller towns great attention was paid to the stations. Shrewsbury had a pleasant building; that at Coventry was peculiarly attractive with its open double staircase ascending from the middle of the platform to the right and left and leading to a picturesque terrace overlooking the trains. Berkhamstead Station was 'of brick with stone dressings in the Gothic style, and the situation in which it stands gives it a very picturesque effect'. Sometimes there was a delightful combination of rusticity with the growing dignity of the towns. The stations and station hotels at such places as Slough and Windsor were good examples and admirably portrayed by Bourne. The slightly Italianesque, rather Byronic, station at Colchester looks particularly gay in the print that portrays the festival when the first train passed along the Eastern Union line in 1846. Sometimes, as at Watford, the trains run on an embankment above the station yard, sometimes the approach is up an incline and, as at Leamington, the yard is on a level with the trains. Everything tended to show the station as a place of coming and going, of friendly intercourse and of commercial importance, but all this in many cases is no more. Occasionally

a whole station, as at Lytham, is no longer used; the heavy but not unattractive Renaissance frontage, so fashionable in its day, the octagonal hall, within, where the passengers assembled before going out on to the platform with its 'unique roof of twelve wooden arches', is now merely used for Goods; and the traffic in Goods has no interest except to those immediately concerned in it.

Other stations died a slower death. Few would write as excitedly to-day as Parry did in his Diary of October 14th, 1846: 'We reached Taunton Station at half past 11 and tried the Railway Hotel at the Station. It has proved the nicest little place we have been in for a long while—so clean, so neat and everything so good; we were delighted with it.' Even on the following day his enthusiasm is unabated 'Very dismal morning,' he writes at Taunton Station, 'but the thought of the hotel so pleasant—room so reasonable, the servants in the bill! The two ladies and I gave a shilling to the waiter.'

It is difficult to realize that a century ago there was a pride in the railway station as part of the landscape. The 'Bird's Eye View' of the Skinner Street to Camden Town Railway proudly dominating the whole of that part of London is merely a curiosity. The Bath Bridge and Station fitting so perfectly into the landscape, the Bristol Passenger Station and the Bristol Goods Station, both treated with equal pride in contemporary prints, belong to a period of much more local thought. The charming little engraving of Berkhamstead Station, in which the train bustles into the station, is a thing of the past; we do not feel or think like that nowadays.

The Brighton terminus had a frontage to the station not unlike the frontage of the smaller London termini, and in keeping with the urban character of the houses on the Hove and Kemp Town fronts, which were then comparatively new. But the pride in the Brighton

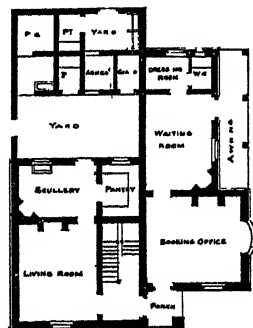
Station of a hundred years ago is very different to the attitude to it to-day. Then the railway was an epoch-making novelty, and there was leisure to appreciate the ordered architecture of the station, now it is scarcely noticeable: the decayed dreariness of the approach, with the upper parts of its once attractive little houses dismal and dirty, the lower parts made into uninteresting shops, overshadows all thoughts of the station itself. Nor are the modern improvements very helpful. They are plain, inoffensive structures, but designed with little thought of the original station façade, and are perhaps designed more as an 'economic proposition' than as a genuine effort at modern simplicity. The crowds arrive and depart as quickly as possible—there is no longer the lady in the gay little carriage, nor the gentleman on horseback enjoying the pleasures of the moment. There is a joy in speed rather than in the immediate surroundings, and if there is any thought of a particular place it is of the next place rather than of the present one. Brighton Station is a name rather than a building

The Gothic enthusiasm of the Victorians, if it received any attention at all, usually strikes the modern eye as peculiarly grotesque. How amusing the very Gothic engine house at Croydon seems, and the still more Gothic station at Battle, on the Tunbridge Wells and



Battle Station.

Hastings Railway! Etchingham Station follows closely in the Gothic revival, and so do many others in a homely way. In some of David Mocatta's water-colours, such as his 'Station on the Brighton line', the tendency is more classical, but there are many with a simple and charming 'Gothic tendency', gentle and unassuming.



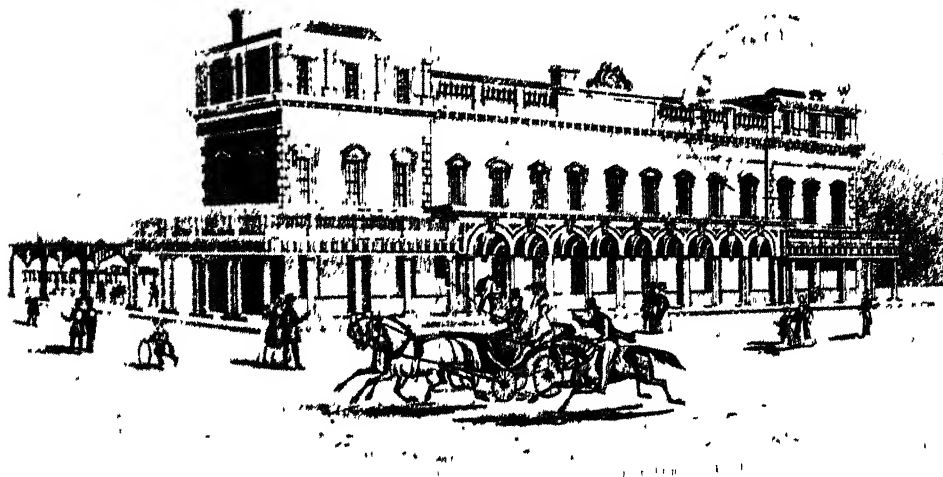
Londesborough Station. Attractive design for Landing Station with domestic quarters

Now all is changed. In the country there are too many small stations, they were constructed at frequent intervals for the horse traffic of their day, when a drive of a few miles was a long way, and to be more than three miles from one of the new railway stations soon meant for many complete isolation. When they were first built, however, the homeliness of the country station was at its best—Pangbourne was a perfect example, and so was Kenilworth. The illustrations that we have of them are always in perfect tune with their subjects. The larger town stations are usually shown in steel engravings, the small country stations in woodcuts and, if a wayside station is so small that it hardly dares to intrude, we find it unostentatiously appearing as a small tailpiece.

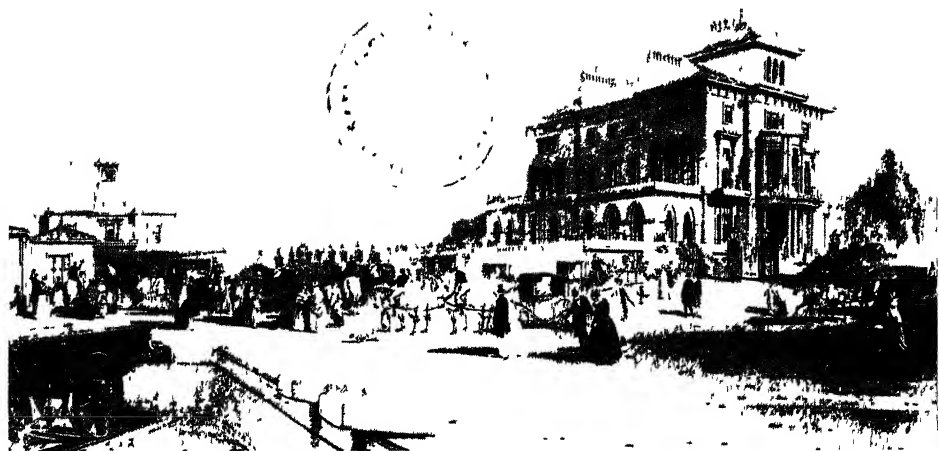
In the smallest stations, such as Ullesthorpe and Hampton, the station and the station-master's house were almost one. At Syston, for example, the little station comprises 'every accommodation for the residence of a family', Londesborough provided a place for the



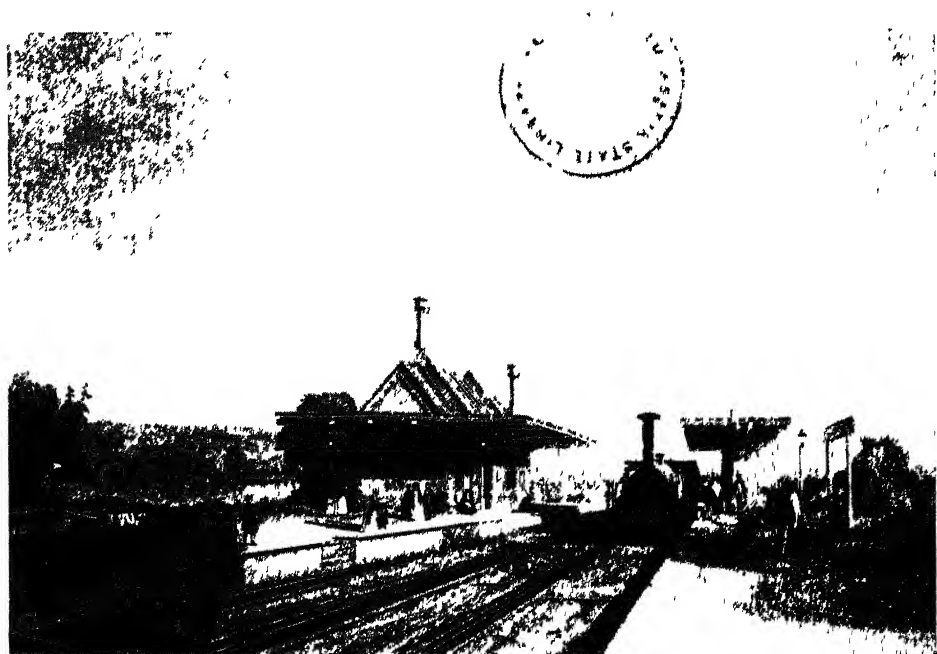
51 *The first station at Westbridge, near Leicester. The homeliness of the country station, when railways first started, is difficult to appreciate to-day. The train drove up to the door, noisily, no doubt, but very much in the same way as the coach had drawn up in front of the door of the Inn.*



52 *Brighton, since its popularity during the Regency, was always a little self-conscious in its architecture. Its station is what one might expect – a Victorian edition of the buildings on the Hove and Brighton fronts.*



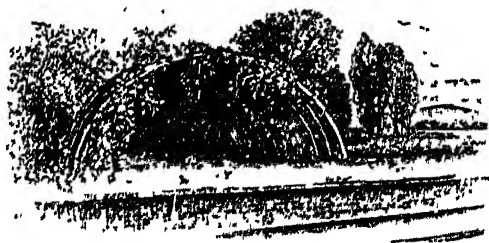
53 Anglicized Italian architecture was becoming more and more popular in various parts of England, and Scotland. There is something curiously Byronic about Slough.



54 Pangbourne, a typical rural station of the 'forties. The railway was open to the countryside and seemed part of it. The station was not as yet disfigured with advertisements.

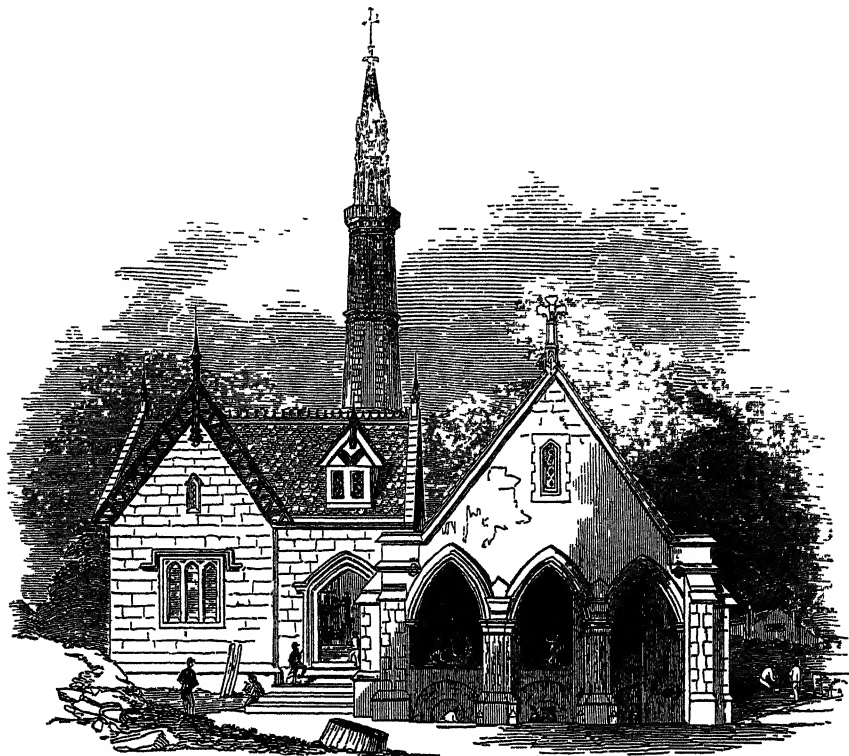
station-master's pig. Anecdotes abounded: at Hawkesbury Station a dog rings the bell when he sees a train approaching; sometimes when trade is slack the coal trucks stand so long at the station that a bird can build a nest and hatch a healthy brood in them. Yet, though the station at Westbridge, near Leicester, existed in all its rusticity from 1832 to 1893, the spirit that inspired such stations has little in common with our age of rapid road transport and still more rapid thought.

Last of all there is the station which is only an arch of roses, the charming little Welsh station, illustrated in *Our Iron Roads*. It is nothing more than a large semicircular arbour of closely twined trees which in summer offers shade and a shelter from the wind and the rain, and in the winter does not. Is it still there, or has it been improved? Though there is doubtless grass on the platform, perhaps the roses still welcome an occasional train.



A Welsh Railway Station.

ART AND DECORATION



Croydon's 'Gothic' Engine House

'Along the iron veins that traverse the frame of our country, beat and flow the fiery pulses of its exertions, hotter and faster every hour. All vitality is concentrated through those throbbing arteries into the central cities; the country is passed over like a green sea by narrow bridges, and we are thrown back in continually closer crowds on the city gates.' Thus wrote John Ruskin in *The Seven Lamps of Architecture* in 1847, and it expresses admirably the æsthetic thrill which a few amongst the cultured classes experienced at the advent of the railways. The stirring emotions aroused by this new and

exciting form of transit found expression in all types of literature and in all kinds of ways, even the humblest. Railway enthusiasm appeared in many unexpected places, great and small. There was the immense Euston arch, and there was the dainty piece of Coventry ribbon, machine woven by Messrs. Stevens, in which 'The Good Old Days' appeared represented by a coach and 'The Present Time' by a railway.

In many of the early railway books the illustrations are numerous and admirably in keeping with what is written. Osborne's London to Birmingham Guide, Williams's *Iron Roads*, and many others, are all delightfully illustrated, and the maps are often enlivened by small engravings at the corner. An allegory, sometimes gay, sometimes tragic, often appears, a cupid astride a steam-kettle, some coach-drivers, or the coach itself, neglected and discarded, with the railway puffing along merrily in the background.

Many of the early Railway Guides are almost perfect examples of what a book should be. The lettering and the occasional vignette on the cover are well spaced, the colour chosen prepossessing and often surprisingly modern. The orange of the rare outside boards of some of the early Midland Counties' Guides, with their black type, is both dignified and bright, and there are most attractive title-pages. The olive green of some of the early Bradshaws, occasionally with a conventional little floral pattern, makes a perfect cover. Even the wrappers of the early Railway Ballads, though their colouring is crude, are an arresting and amusing introduction to what is inside.

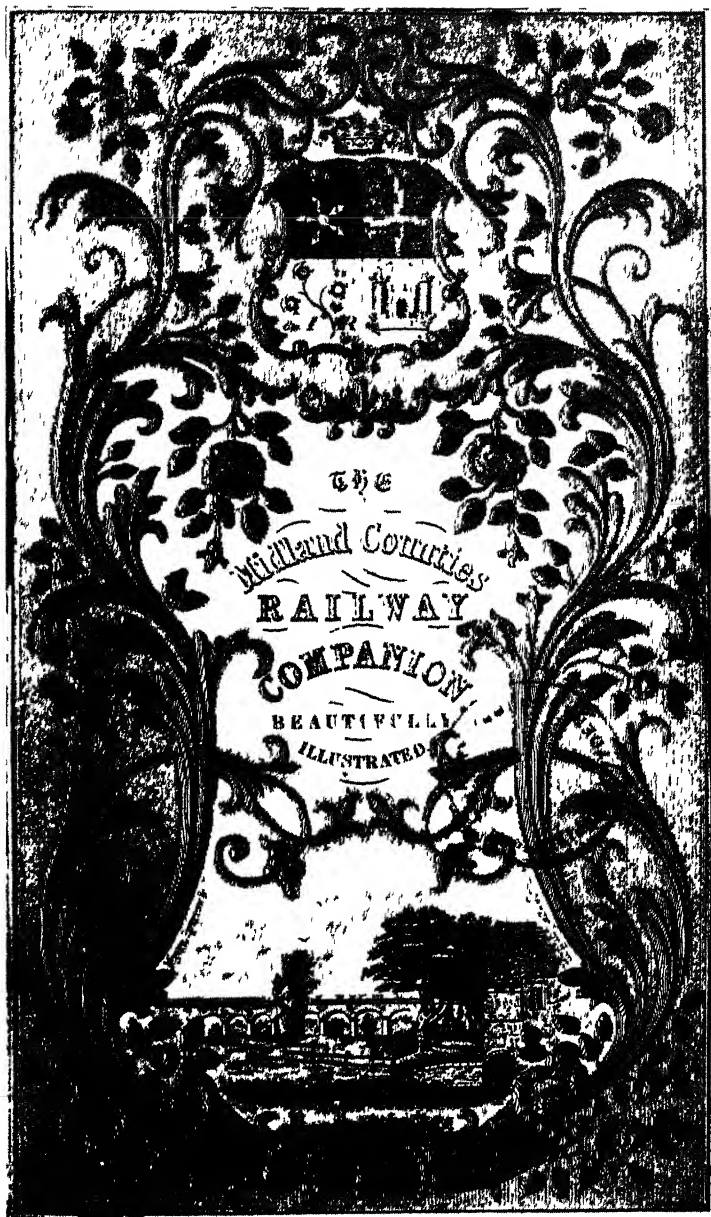
The Preface to the Midland Counties Guide is itself so decorative an example of the spirit that prevailed that it is well worth quoting:

The support which our last work of this description (the 'Companion to the Nottingham and Derby line of Railway') received, coupled with the high encomiums which were passed upon it by the press, has emboldened us to

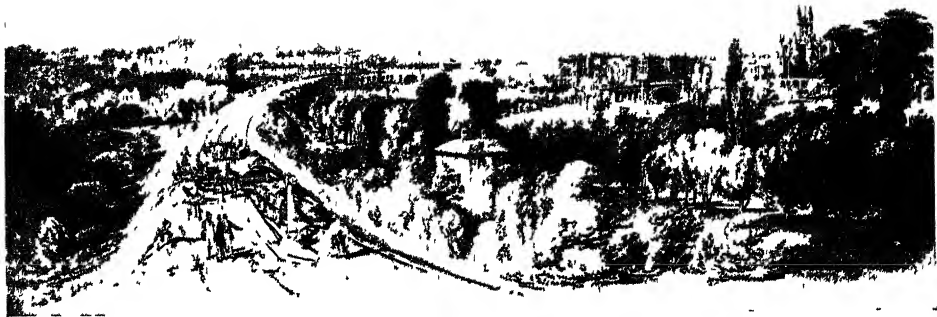
launch another bark upon the troubled waters, and make a second attempt to secure in our favour the wind and tide of public opinion. The little skiff which last year issued forth, with its clear sheets and homely figure-head, has breasted gallantly the surge and the storm—the craft, which it was feared by many would be driven back into port a useless wreck, has with crowded canvas fulfilled its voyage and discharged its abundant cargo, while with strong assurance of success in another effort, it has returned home, and again with fresh stores puts off to try its luck once more. But not as before, does she (as sailors would say) creep unpretendingly from port—and as if in danger of being crushed by vessels of larger burthen, glide out upon the tide with scarce a sail unfurled. Nor are her dimensions of the same light character—our tight little craft, by steadiness and perseverance, completed her first voyage with the most uninterrupted success, and her owners have in consequence determined to try a larger venture. A smart frigate, fearing nought that has yet crossed, or may in future molest her path. with stouter bulwarks, and manned by a force of ten times the number used in the first effort, now issues from the stocks, with the support of a wide and varied circle of friends, whose kindness alone has ensured the impossibility of any loss arising from the undertaking. Incapable of fear, she gallantly breasts the puny waves which oppose themselves against her onward progress.

The embellishments of the railways have a curious and not unpleasing similarity. The same spirit that produced the unexpectedly beautiful Norman, Tudor, Gothic, Castellated, Renaissance, and even Moorish decorations also produced the massive, but by no means clumsy, marble mantelpieces which are so important a feature of the Committee Rooms at Euston. Both the stations and the station Hotels benefited from many innovations, the new and intricate shapes of cast-iron work, which were so much in favour before and after the Great Exhibition of 1851, and the Lincrusta ceilings of more doubtful beauty which were much admired and soon found their way into the railway carriage ceilings.

The aim was to combine utility with elegance, and the attempt to achieve this happy combination took different forms. Though the aim is the same, there is a world of difference between the classical Euston and the pseudo-Gothic St. Pancras, and even in the



55. The decorative frontispiece of the Midland Counties Guide shows the solid grace of railway decoration at its best

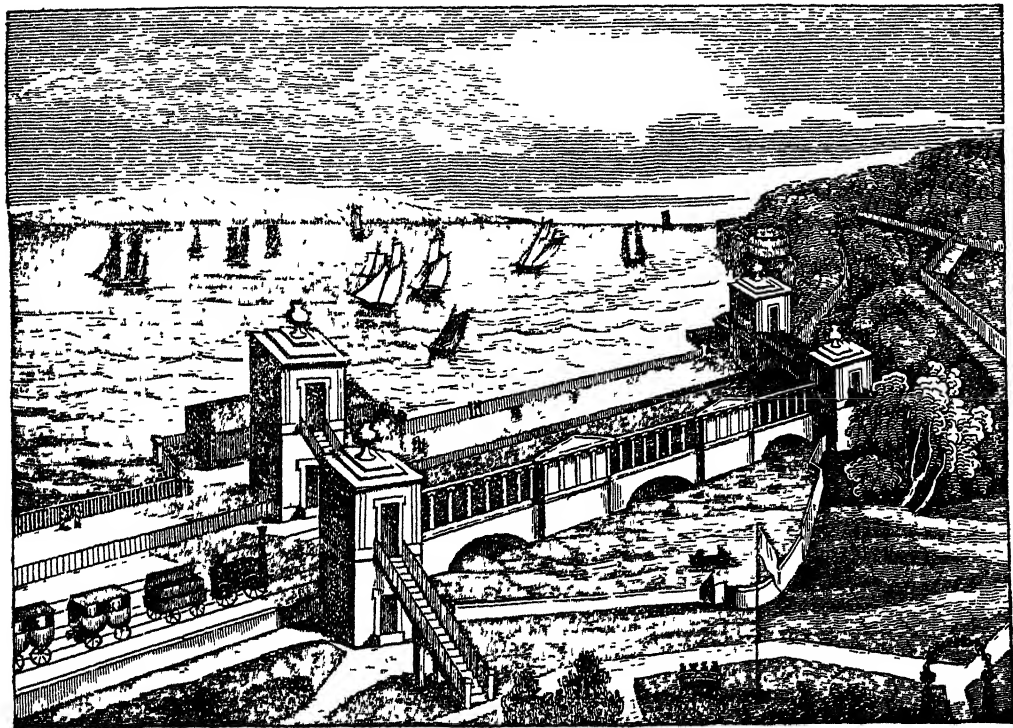


56 *The construction of the railways brought a sudden unexpected geometrical composition into many of the famous English landscapes. One can see at a glance how the railway into Bath changed the prospect*



57 *Edinburgh's famous valley was altered very little by the railway. Though it passed through the heart of the city the landscape remained much the same*

country there is the same contrast between the 'Classic' and the 'Gothic'. Out of London, however, it was more the railways' position in the general landscape that captivated the imagination, the romantic Primrose Hill Tunnel, so admirably shown in many



Bathing and Fishing Pavilions built for Lord Cloncurry by The Dublin and Kingston Railway in compensation for the railway passing through his estate

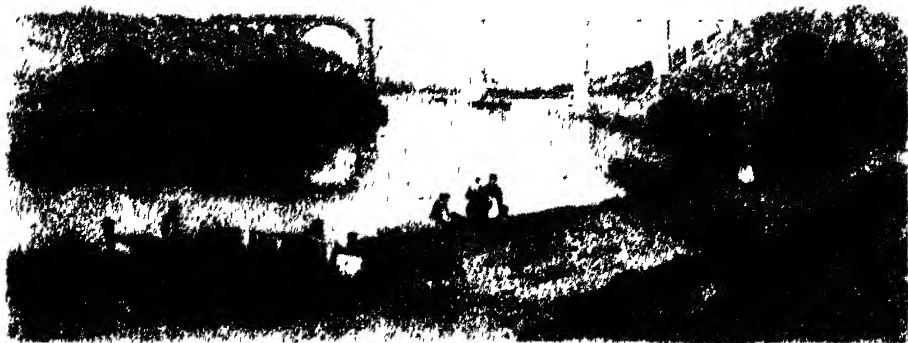
prints, is part of its setting, and so were most of the other striking but picturesque features that the railways introduced into the countryside. There is hardly a print of the early railways in which one could say that the Viaduct, Tunnel, Embankment, or Station disfigured its surroundings. In most cases it did the opposite: it gave character and significance, and showed that man's work was the work of Nature, too, ready to be absorbed into any landscape, however 'unspoilt'.

Fortunately, the engineering feats were as a rule left to show their own artistic qualities, only occasionally was some floral or conventional decoration added as an afterthought to over-decorate or misinterpret the structure. For the most part architect and engineer worked in easy unison, without any false idea of making the work merely pleasing.

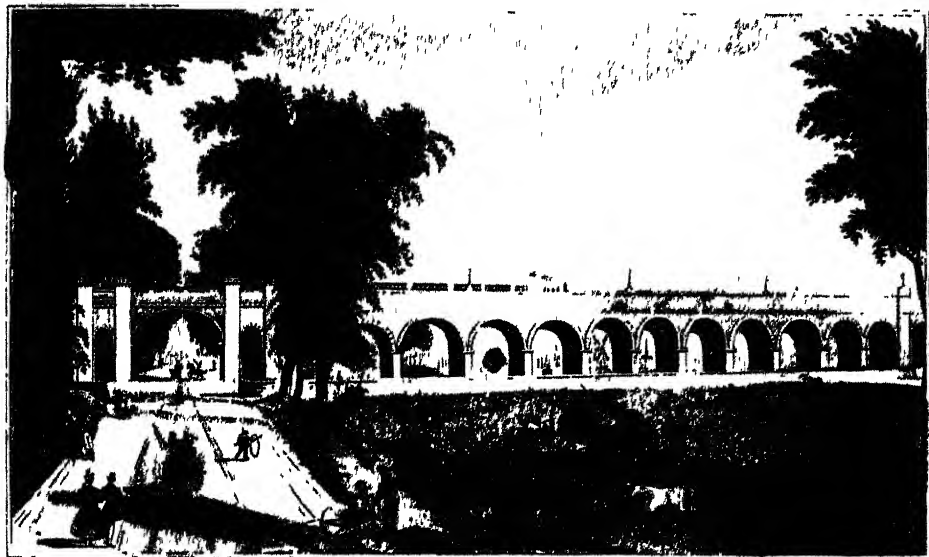
Of the minor embellishments, especially of the original furniture and decorations of the Railway Waiting Rooms and Hotels, there is little left. Most of the furniture, for example, of the Great Western Royal Hotel at Paddington is gone, and there is little to show the original appearance of even the Refreshment Rooms in many of the provincial stations. Until a few years ago the Great Western Hotel at Paddington was the most unspoilt of all, the same black and gold trellised chairs with arms were still in the drawing room, on which our Victorian grandparents used to sit, and the white marble clock still had its fitting place in the centre of the marble mantelpiece. The dining-room also was in many respects untouched, the great marble pillars on one side, the allegorical figures on the other, gave a feeling of leisured dignity, even when there was a train to catch.

The Royal waiting rooms were the same as the hotel reception rooms, though the brocades were richer, the chintzes more elaborate and the mantelpieces more decorated. Possibly the gas-brackets were a little more floral, but that was all. Even to-day, when the photographs were taken, there is, of course, a vase for flowers on the mantelpiece and a pair of aspidistras on the console table.

There were even Royal Stations, specially used by Queen Victoria, both at Wandsworth Road, in the South of London, and at Gosport. The London and South Western Board Minute, authorising the construction of the former, is dated 25th August 1853, and the

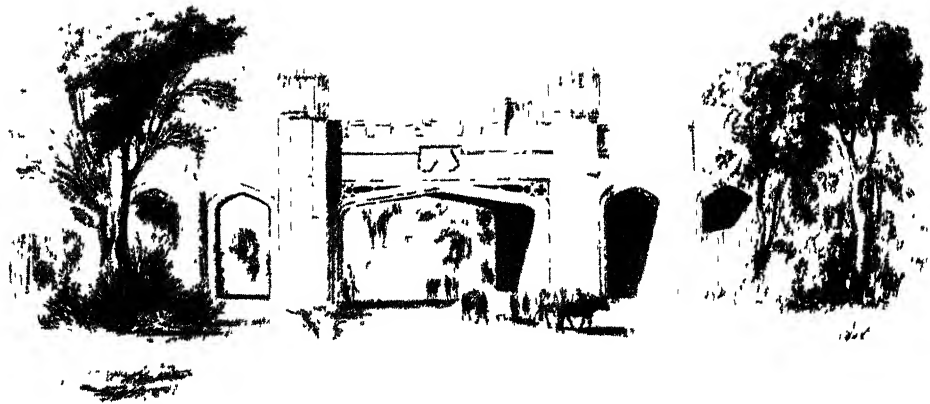


58 *The Victoria Bridge, near Durham, built in 1838, was one of the first of the early viaducts, and its simple and beautiful proportions gave a new charm to the valley*



VIEW OF THE GREENWICH RAILWAY VIADUCT, FROM CORNHILL GATE

59 *The viaducts on which The Greenwich Railway was constructed were almost lost in the more crowded areas, but in the outer parts of London they altered the whole landscape. They broke up flat and featureless fields by a man-made, but none the less delightful, structure*



60 *The castellated bridge over the road at Rugby may appear unnecessarily romantic, but it is typical of the spirit that inspired the more ornate type of railway architecture*



61 *The Classical-Renaissance style of the mouth to the Box Tunnel seems curiously appropriate though it was adapted to so novel a use*

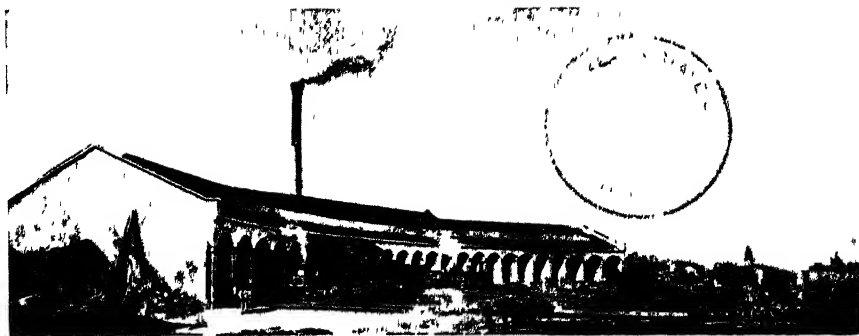
- (a) *The suggested design for the Duke of Wellington's carriage at the opening of the Liverpool and Manchester Railway shows railway decoration at its most self-conscious state*



- (b) *The heavy dignity of railway decoration is at its best in the mantelpieces, panelling and furniture of the Board and Committee Rooms at Euston*



- (c) *New needs inspired new architectural forms, often of considerable beauty. The engine-houses at King's Cross show a happy collaboration between engineer and architect*

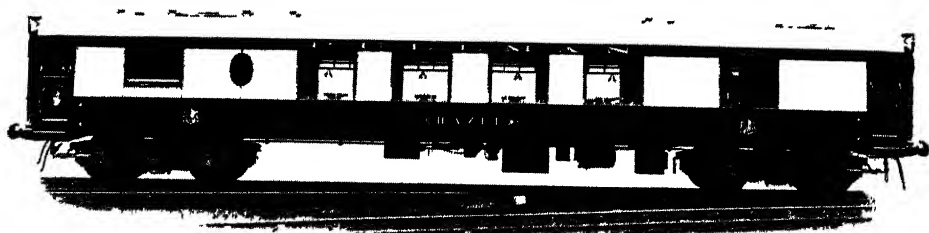




(a) *The first railway carriages were merely copied from the designs of the old coaches, and were built by the same workmen. The chief difference was that they ran on smaller wheels.*



(b) *Only very gradually did the outline of the railway carriage free itself from the old coach building design.*



(c) *To-day the Pullman has little in common with the designs for the old stage coaches, though the word 'coach' still persists amongst the railway staff.*

station was not demolished till 1899-1900, in connection with the widening of Nine Elms viaduct.

As the railway carriage developed from the primitive truck 'decoration' began, but at first very slowly. Only in the Royal Carriage was there any sudden advance. As early as 1840 the Great Western Railway, anticipating the patronage of the Queen and her illustrious Consort, Prince Albert, completed a splendid railway carriage for their accommodation, 21 feet long, divided into three compartments, those at the end having large windows affording a view of the whole line. 'The interior', a contemporary newspaper writes, 'has been most magnificently fitted up by Mr. Webb, upholsterer, Old Bond Street. The saloon is handsomely arranged with hanging sofas of carved wood in the rich style of Louis XIV, and the walls are panelled out in the same elegant manner, and fitted up with rich crimson and white silk and exquisitely executed paintings, representing the four elements by Parris. The end compartments are also fitted up in the same style, each apartment having in the centre a useful and ornamental rosewood table; and the floors of the whole are covered with chequered India matting.'

The Queen's Railway Carriage, built by the Great Northern Railway and used by the Queen for her journey between Biggleswade and King's Cross when the French Emperor was a visitor to England, was in the English rather than the French manner. 'There was a carved walnut table in the middle and pale green silk curtains of exquisite taste. The floor is covered with a dark maroon carpet showing a scarlet figure of the House of Lords pattern, thus keeping before Her Majesty, even in a railway carriage, the highest House which represents the legislature of Her Kingdom!'

The new Royal Southampton Railway carriage was also tastefully ornate. There were two compartments, one for Queen Victoria and Prince Albert, and the other a nursery for the children. The

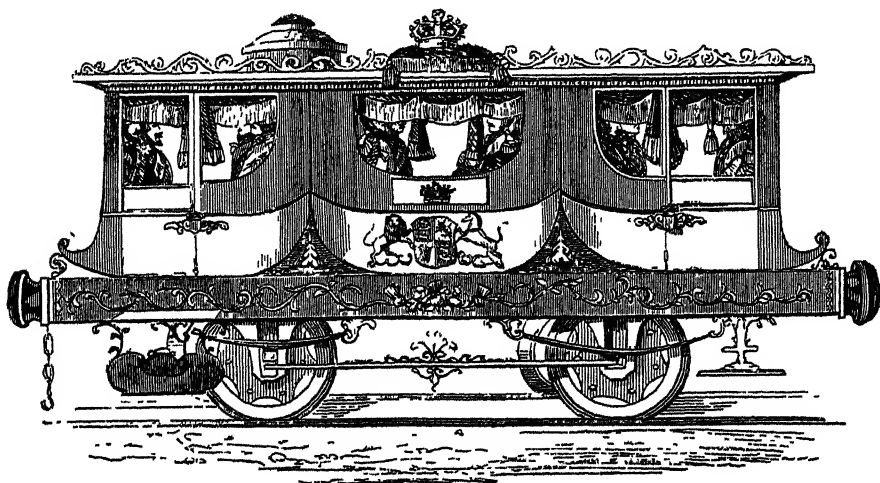
Royal compartment was lined with drab silk damask 'richly trimmed with crimson and white lace'. The ceiling was of white watered silk exquisitely embroidered with crimson velvet and silver relief, forming the natural emblems of rose, shamrock and thistle.' Blinds of peach-coloured silk with silk tassels were supported by white and gold bracelets.

It is curious that in the case of the ordinary railway carriage the idea that it should be built in the manner of the coaches on the road should have lasted so long. Even the width of the gauge was originally taken from the width of an old coach, and the lines of the outside of the Royal Saloon, built as late as 1848 for Queen Victoria by the Kent and East Sussex Railway, are still to a great extent those of the road coaches of the beginning of the century. It was not until 1872 that Mr. Allport visited the United States with a view to introducing the Pullman Car into England, and it was only then that the last traces of the appearance of the old road coach vanished completely from the railway carriages. In the Pullman there was something of the luxury of the Royal Coach, but by then Victorian decoration was beginning to lose its original charm and character, and the Pullmans were ornate and little else. By the early part of the twentieth century the more luxurious railway carriages were little different from a sitting room.

In many details the railway's early appreciation of good opportunities for decoration was peculiarly uneven. The railways were unexpectedly successful in some directions, yet often neglected the obvious. The formal Lion's Head, for example, used on the Royal Railway Carriage and preserved at Paddington, has considerable character and is a happy example of lively formality. On the other hand, though there are many pleasantly decorated share certificates, prospectuses and invitations, there is a great lack of imagination in the matter of tickets. Only Ireland had tickets of varied and

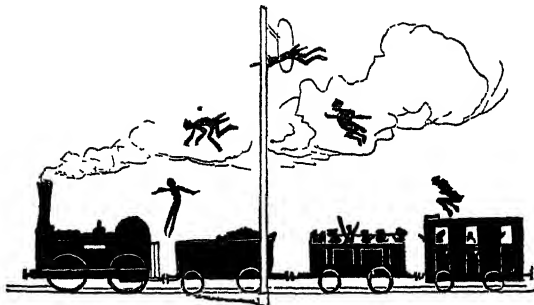
magnificent colour, and, though the place of destination was sometimes left out and other information, such as that 'A Meat Tea' was included, the passenger was cheered on his way by a pleasant colour scheme. A design of any kind on a ticket was apparently unthought of, only occasionally there was a small symbol, such as the little guardsman, standing at ease, on the Midland's red ticket for soldiers, sailors and policemen.

In spite of all their faults the decorations of all kinds on the early railways had a distinct character of their own. We may dismiss them as Victorian, we may call them ugly until they are sufficiently old to be classed as antiques, yet they have a distinct affinity to the great undertakings that they helped to adorn. Decoration seldom concealed or betrayed their function. They were dignified, they were for the most part simple, and, though they copied other periods in what we think a grotesque way, it was with sincerity and conviction, and possibly with a greater affection than we to-day feel for any of our own contemporary architecture or decoration.



The New Royal Southampton Railway Carriage.

COMFORTS AND DISCOMFORTS



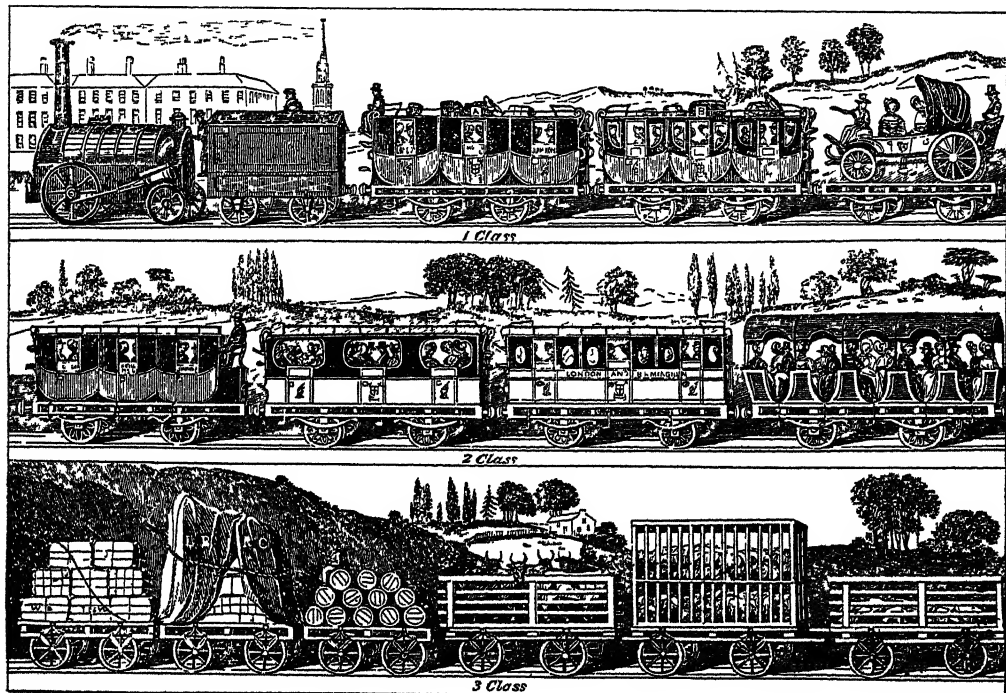
‘There is little doubt’, wrote Roscoe in 1839, ‘that could our good forefathers of less than one century back return and take possession of their former homes, if indeed they could hope to find them again, we should some of us have a sorry chance of escaping with our lives. To talk of the age of miracles, indeed! of the penalties inflicted on the Galilean philosophy, and of the exploits of witchcraft,—what might we, their presumptuous descendants, expect when they saw us, like the giant-killer, in our seven-leagued boots—videlicet locomotives—taking forty strides for one; going just as far, and transacting just as much business, in a single day, as they were proud to put into a week.

‘How they would open their eyes in astonishment and dismay at witnessing the resistless proofs of our necromantic powers and triumph in all the black arts, such as they appear in one of our feeblest engines—a mere pony, as it is termed, velocipeding with the speed of ten racers, or the strength of one hundred of the stoutest of Barclay’s drayers of porter. Indubitably, if our said ancestors could only catch us—rather difficult at their old rate of posting—we should be forthwith arraigned, tried, and, agreeably to the old laws,—however little so to ourselves,—not long since in force as regarded all sorcerers and dealers in forbidden knowledge, either hanged or drowned, or perhaps for sake of variety, burnt, to eradicate our diabolical propensities of flying over the earth upon wings of fire; for they would assuredly not pay the slightest attention to our fine-spun theory of steam, or believe that anything less than some supernatural, probably infernal, power could contrive to send us, by a smoking, grumbling, little inanimate machine, at a pace so very different to the old plans of human motion on the surface of this our strange and antiquated earth.’

Travel on the early railways was not very pleasant. The darkness of the carriages, only relieved by the passenger’s own candle which

COMFORTS AND DISCOMFORTS

he brought himself and fixed at the back of the seat behind him, the fact that at intermediate stations passengers took their chance as to when the train arrived, the practice on one railway at least of emptying soot on the floor of third-class carriages in order to



Early Railway Carriages

prevent people who ought to pay first-class fares from using them; all these things were not very comfortable, though they were better than being literally frozen to death on the outside of a coach.

There is an early and amusing description of travel on the new railways:

THE RAILWAY MONITOR TO TRAVELLERS

The existing railway arrangements render it imperative that you should provide yourself with a large stock of philosophy, to enable you to put up with certain inconveniences, which you will be sure, to a greater or less extent, to

encounter on most lines, and whereof a classification is hereby appended for your benefit.

FIRST CLASS

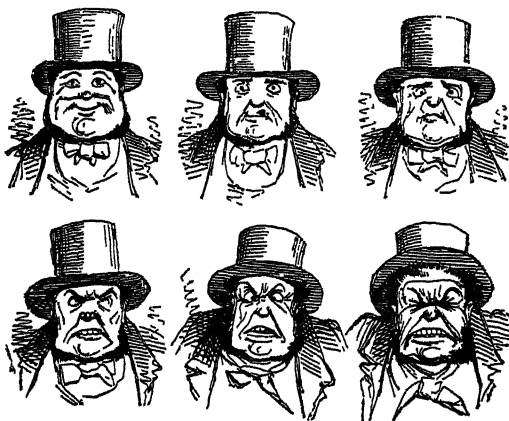
The chief inconvenience peculiar to this class is that your fare will be about twice as much as you ought in fairness to pay. You run, perhaps, rather less risk in this class than in the others, of having your neck broken, but you must not be unprepared for such a contingency.

SECOND CLASS

In travelling by the second class, you will do well to wear a respirator, unless you wish to be choked with dust and ashes from the engine close in front of you. Also, if you are going far, you are recommended to put on a diving-dress, like that used at the Polytechnic, because, if it should rain much during your journey, the sides of the carriage being open, you will have to ride in a pool of water. Your dignity must not be hurt, should you have for next neighbour a ragamuffin in handcuffs, with a policeman next him. The hardness of your seat is a mere trifle; that is the least of the annoyances to which you are judiciously subjected, with the view of driving you into the first-class train.

THIRD CLASS

Make up your mind for unmitigated hail, rain, sleet, snow, thunder and lightning. Look out for a double allowance of smoke, dust, dirt, and everything that is disagreeable. Be content to run a twofold risk of loss of life and limbs. Do not expect the luxury of a seat. As an individual and a traveller, you are one of the lower classes; a poor, beggarly, contemptible person, and your comfort and convenience are not to be attended to.



The effect on the countenance of early Railway trains

COMFORTS AND DISCOMFORTS

ALL THREE CLASSES

Punctuality may be the soul of business, but suppose not that it is the spirit of railways. If you do not care whether you keep an appointment or not, make it on the faith of the Company, by all means; but otherwise by none. Regard starting, or arriving at your destination, only half an hour too late, as luck. You pay nothing extra to attendants for civility, so you must not hope for it. Remember that you are at the mercy of the Company as to where you may stop for refreshments, for which, accordingly, be not surprised if you have to pay through the nose. Beware, if you quit the train for an instant, lest it move on, you have paid your money, the rest is your own lookout, and, you may depend, will be no one else's. For loss and damage of luggage, and the like little mishaps, prepare yourself as a matter of course; and if at the end of your journey you find yourself in a whole skin—thank your stars

‘In my early days’, remarked one of the railway guards, ‘we were called brakesmen; we had no brake-vans; we had to ride on the top of the carriages or on the loaded vans, anywhere we could, and to get on and off anyhow we could. And on a frosty night it *was* getting off. Our limbs were often benumbed with cold; we were sometimes so stiff with cold that we had to be lifted off, and some, when they were lifted off, were found to be frozen to death. When trains were running down an incline, we had to scramble or jump from one wagon to another in order to put on perhaps five or six brakes. When you jumped upon a load of goods sheeted down, you could not possibly tell what you jumped upon, and, in consequence, many men lost their limbs or their lives. When a train stopped for anything, the brakesman had to go back a quarter of a mile, he was not to return till he was whistled in, and then he had to run in as quick as he could for fear he should be overtaken by a following train. I have run many a pair of shoes off in my time in doing this.’

It was not, therefore, only on the outside of the old coaches that people were frozen to death, but before long there were comforts and conveniences for both railway employees and for the passengers. The guard was soon a very different person, he had dignity and importance. Journeying from Stanford to Loughborough we read: ‘We pass under the Nottingham road, carried over the railway by a large span, and are saluted by the loud voices of the guards, announcing our arrival at Loughborough Station.’ He is always the central figure. ‘Where is the guard?’ cries the aged dame,

stunished among a pile of trunks. 'Where is the guard?' shouts the stout gentleman, vainly seeking his smoking compartment; and 'Where is the guard?' echoes the bewildered young lady, who has lost her lap-dog and her temper. To all and everybody the guard is the leader, the representative of the train. Proudly as Louis XIV in his royal robes, the British railway guard, standing in full uniform at the side of the winged express preparing to start, may lay his hand on his heart and say, 'Le train, c'est moi'.

For the less well-to-do classes there were almost at once Excursion Trains. One of the earliest, probably the first, was run by Mr. Cook from Leicester to Loughborough on July 5th, 1841, the fare being on the basis of a halfpenny a mile. But the journey amenities had still to come. The refreshment rooms often left a good deal to be desired. In 1842 Brunel himself wrote a withering letter.

'Dear Sir,

'I assure you Mr. Player was wrong in supposing that I thought you purchased inferior coffee. I thought I said to him that I was surprised you should buy such bad roasted corn. I did not believe you had such a thing as coffee in the place; I am certain that I never tasted any. I have long ceased to make complaints at Swindon. I avoid taking anything there when I can help it.

Yours faithfully,

I. K. BRUNEL.'

Perhaps the letter had some effect, for we have, about eight years later, a print of a noble first-class refreshment room at Swindon. We hope that the food improved in proportion to the decorations, or perhaps the philosophy of the passengers increased. 'Do you think I can digest that?' one passenger asked angrily of another, glancing at a hunch of pork pie in his hands. 'Digest it!' the other replied in

astonishment. 'Do you think, Sir, that I allow my stomach to dictate to me what I think proper to put into it?'

By far the best description of a really good refreshment room is contained in the details of 'The Refreshment Room at Wolverton' in 1848. Here behind a wonderful array of silver urns, silver tea and coffee pots, piles of pies, sandwiches, buns and cakes, stood a matron or generalissima with 'seven very young ladies to wait upon the passengers'. Amongst many other things the patrons are said to have consumed 182,500 Banbury Buns and 56,940 Queen Cakes, and to have drunk 16,425 quarts of milk and 17,520 bottles of lemonade, and we are sorry to add also 3,660 bottles of brandy, 730 bottles of gin and 731 bottles of rum. 'It is, however, satisfactory to learn that 85 pigs, who after having been from their birth most kindly treated and luxuriously fed, are impartially promoted by seniority one after another into an infinite number of pork pies.' It is also good to hear that 'notwithstanding the everlasting hurry at this establishment, four of the young attendants have managed to make excellent marriages, and are very well off in the world.'

Year by year railway travelling became more attractive. Bells conveniently announced the arrival of each train at the country stations.

Every station is furnished with an alarum, to give notice of the approach of each train, and to summon the whole of the men to their appointed places. These alarums are so constructed, that the weight is wound up after they have performed their office which prepares them to perform it again. On seeing the forthcoming train has reached the proper spot, the policeman stationed at them pulls a trigger, and the weight begins to descend, ringing a loud gong-shaped bell by means of internal machinery. Bells are also hung so as, in a few seconds, to collect together the whole of the men belonging to the station for any required purpose.

Passengers could go mushrooming while waiting for the train to proceed. The Oxhey Lane cutting, which is in parts forty feet deep,

presented 'a series of beautiful gardens of wild flowers, which in the season enliven the lonely walks of the policemen by their beauty and fragrance, though owing to the rapidity with which the traveller is impelled, the clusters of violets, the hare-bells, the forget-me-nots and the germander speedwells are to him scarcely perceptible.' Strawberries sometimes grew in profusion on the railway embankments, and it seems a pity that the suggestion of growing vines and figs and trellised wall-fruit on the embankments was not carried out.

Many feared the injurious effects of the tunnels, but medical evidence was brought forward to show that such fears were 'perfectly futile and groundless'. In one of the gigantic tubes about to be erected over the Menai, a concert was held in 1849. 'Candles, placed by couples in four alternate tiers, about 500 in number, illuminated the scene. The music, vocal and instrumental traversed the whole length of tubing with scarcely diminished volume. The effect is said to have been pleasing, the brilliantly-lighted perspective being at least 157 yards long. The tube is nearly 15 feet wide, and about 30 feet high. Upwards of 600 of the élite of the neighbourhood occupied the front of the orchestra, and the other end of the tube was crowded with working people.'

Railway Regulations grew less irksome and more helpful. Facilities increased. In 1848 the Queen travelled the whole journey by six allied railways from Aberdeen to London, as the dense fog 'extended far along the coast, presenting an evident source of danger to Her Majesty in the voyage by sea'. In the following year, on the Lancashire and Yorkshire Railway, females as well as children travelled half price. A judge in the same year, having occasion to leave his carriage for a moment, re-entered the wrong one and was whirled back to where he came from, but a 'special train' rectified his error, and he was in time to hold his Court. A large number of

THE RAILWAY AGE

railways carried ship-wrecked persons home free. Special arrangements were made for the crowds coming up from the country to Queen Victoria's Coronation; the London and Birmingham Railway had to refuse passengers.

As far as the railway was concerned, any number of passengers could be conveyed; but there was a limit, beyond which no person could be booked. For several days before the Coronation of Queen Victoria every seat from Birmingham to London was secured, and hundreds of persons, who travelled to Birmingham in expectation of proceeding by railway, were disappointed. At this time



An early printed linen handkerchief to popularize the use of the railways

from £10 to £20 were offered for a seat. After all the chaises in the town had been engaged donkey chaises, hackney coaches, carts, and wagons, were put in requisition at enormous prices.

The arrival of hampers of Christmas poultry in London was specially catered for, evidence was produced that farming land had increased by ten shillings an acre if it found itself near a railway. 15,000 people in 1848 travelled by train to Coventry to see a revival of Lady Godiva's ride through the streets, and it was suggested that, if the harmless gaiety of such local pageants were encouraged, together with rural sports, it would be health-giving and interesting and also bring profits to the railways.

In 1844 Gladstone's 'Cheap Trains Act' produced the Parliamentary trains at a penny a mile, and the improvements suggested were gradually carried out:

1. Free admission of light and air.
2. Protection against wind, wet, and cold.
3. Lamps for night journeys.
4. Seats with backs, and of sufficient depth to permit all persons to sit with ease.
5. Windows for 'look-outs'.
6. Doors in sufficient numbers on each side to prevent confusion in getting in and out, and to provide means of ready escape in case of accidents.
7. Moderate proportion in the size of the carriages.
8. Acceleration of speed.

There was no doubt that the ordinary railway passenger became more and more friendly towards the railways. Waiting rooms, like that at Bath, were, according to the old prints, very pleasant. There were foot-warmers, long flat metal cases containing hot water, slid under the passengers' feet by the porters before the train started, and there were, and still are, antimacassars in the first-class carriages.

The general public sympathized with the hard-working railway officials. The Goods Manager at Liverpool in 1849 travelled 1,324

miles in one week in addition to his heavy duties at home, 'without an opportunity of getting sleep or food at the proper time'. Railway officials received much praise for their amiability and general desire to help the public. It was declared at a Dinner given by the Eastern Counties Railway in 1847, that 'the great secret in conducting a railway was to have good men employed upon it, and to pay them well in order that they may remain in their service'. English engine-drivers were hired by the French companies to show them how to work their locomotives, and the English railways seemed to have compared very favourably with the State Railways owned by the Government in France.

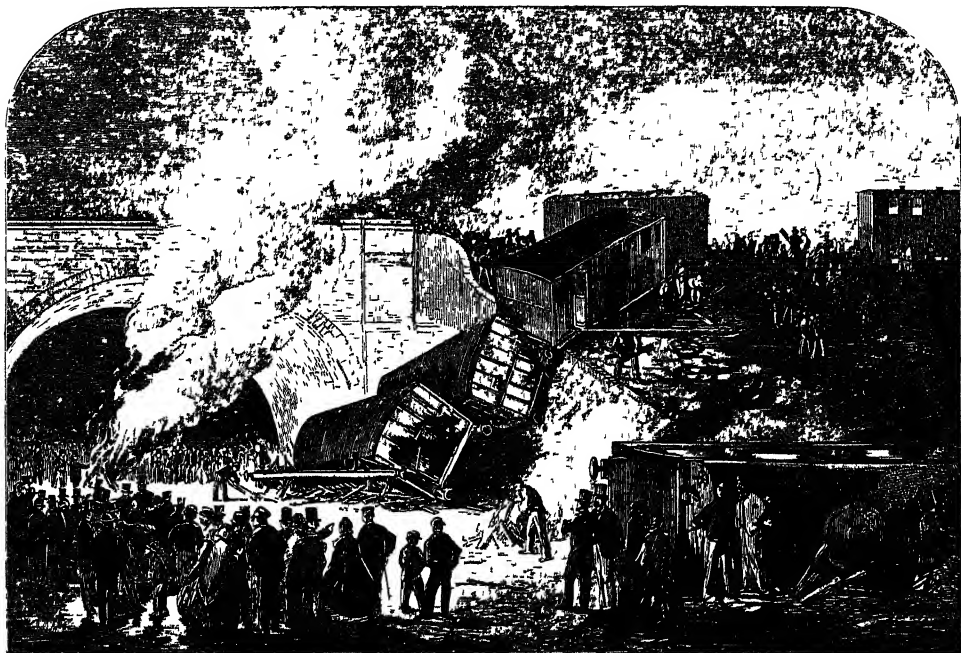
From the very beginning there was sympathy with those who were engaged with the adventurous work of the construction of the railways

'The gravel is most abundant', we read, 'in the neighbourhood of Watford, covering the upper chalk which in many places it penetrates, or in other words, the large fissures or rents in the chalk are filled with the gravel, and as this latter material was very loose and mobile, it was the occasion of much difficulty and danger in the excavation of the Watford Tunnel, for at times, when the miners thought they were excavating through solid chalk, they would in a moment break into loose gravel, which would run into the tunnel with the rapidity of water, unless the most prompt precautions were taken'

But there were more serious obstacles than engineering difficulties: there were, as we have seen, the continual fights in Parliament, to overcome the opposition of various vested interests to new railways, and the disputes between the various companies. Often the interests of the general public seemed to have been forgotten, and the comfort of the traveller by rail was not helped by such serious conflicts, as the dramatic rise and fall of Mr. Hudson, of the Eastern Counties Railways, told so vividly in Mr. Samuel Salt's *Railway and Commercial Information* of 1850. There was the rapid boom in

railway shares, and the equally rapid fall. All this was not in the general interest of the community.

Last, but by no means least, there were the accidents, comparatively few during the construction of the railway, but occurring later with disconcerting frequency—floods, landslides, and every kind of disaster. Signalling was still in its infancy, the uses of



Fatal Accident at Kentish Town in the early sixties

telegraphy in connection with the arrival and departure of trains were only beginning to be realized. The accidents captured the imagination of the public, and there was no lack of thrilling accounts and equally thrilling pictures to show what they were like. We have a significant little woodcut of an engine buried in the snow with nothing but the top of the funnel visible, and, amongst many other stirring stories, accounts of the well-known accident in Sonning cutting in 1841.

One of the most dramatic disasters was that which occurred on the South Eastern, Brighton and Croydon Railway at New Cross in 1841. The damage was estimated at £2,500, a large sum in those days, and some of the locomotives were the victims, although they were of 'almost formidable' construction. The disastrous fire was made all the more thrilling as it broke out at the exact moment when Louis Philippe's train was announced ready to take him to Dover. The King of the French had to walk over hose pipes and through a scene of great disturbance. The flames, only 100 feet from the railway carriage window from which the King watched them, were reflected in the helmets of the soldiers drawn up as a guard of honour, and the combined noise of those who were fighting the flames and those who were cheering the King was terrific. It was difficult at a moment when the King was arriving and departing to ascertain the cause of the fire, but it was afterwards found to be the spontaneous ignition of some vegetable stowed in a paint room. Many men were temporarily thrown out of employment but, though the works were closed, the wages were paid.

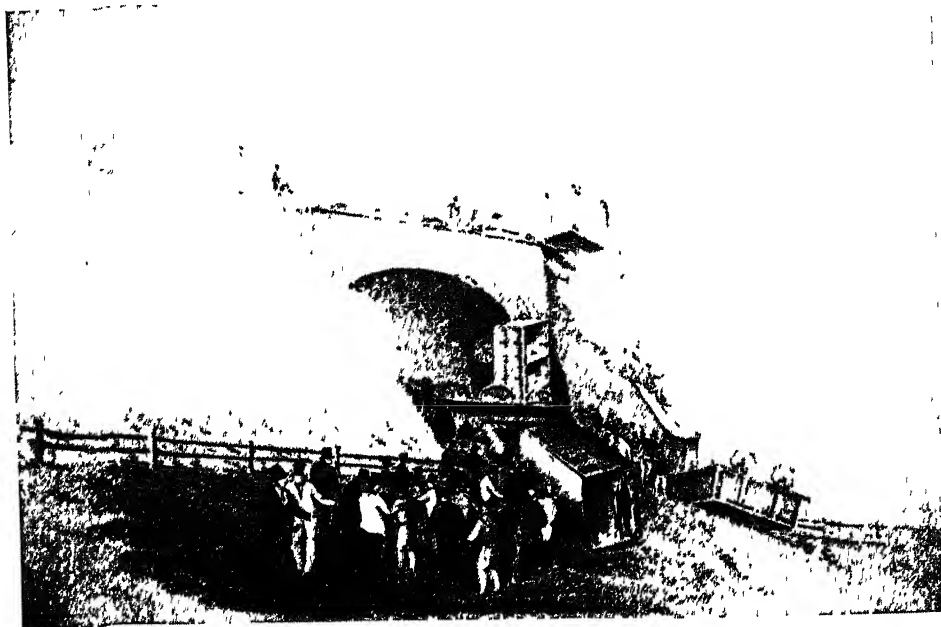
As late as 1873 Queen Victoria wrote to Mr. Gladstone from Balmoral.

The Queen must again bring most seriously and earnestly before Mr. Gladstone & the Cabinet the very alarming & serious state of the railways. Every day almost something occurs & everybody trembles for their friends & for every one's life.

The Messenger has been (since the accident to the bridge was completely repaired) repeatedly several hours late; the post never comes in, 2 days running at the same time; trains arriving in Edinburgh & London are 2-3 hours late. In short it has come to that *pass* that the Govt *must* consider what penalties & restrictions can be devised by Parlt to ensure safety to life. If some people were punished for manslaughter who neglect their duties—or if a Director was bound to go with the trains we shld soon see a different state of things! There *must* be fewer trains,—the speed must be lessened to enable them to be stopped easily in case of danger & they must keep their time.



66 *Catching a train at Puckering was in the very early days of the horse-drawn railways more like hailing a passing bus—an unpleasant experience on a rainy evening. Even the most primitive waiting rooms must have seemed a great improvement.*



67 *ACCIDENT AT NEWMARKET. At first accidents followed each other with alarming rapidity, and the newspapers, as they do to-day, lost no opportunity of emphasizing the dramatic incidents of the disasters.*

The gtest safety wd be however in having separate lines for luggage This ought to be *insisted on*.

Some of the more minor mishaps were among the most tragic; the engine-driver, stoker and guard were all killed when an engine ran off the rail 26 miles from Edinburgh and sank 16 feet into the Covenshaw Bog. By 1879 Charles Francis Adams compiled a classified list of railway accidents, and that was, perhaps, the climax of the interest in trains, after that they took their place with the ordinary misfortunes of daily life.

Rather Ominous

The Directors of the Edinburgh and Glasgow Railway, we are informed, made a few days since a preliminary *trip* along the line. There have been so many *trips* and *slips* on Railways lately, that a little preliminary practice at that work might prove beneficial to persons who prefer making a rapid transit by steam to another world, to the old-fashioned and tedious mode of travelling by post.

Perhaps, however, Dr. Lardner's suggestions for safety in 1850 give one of the best impressions of what travel was like.

1. Never attempt to get out of, or in to, a railway carriage while it is moving, no matter how slowly.
2. Never sit in any unusual place or position. (Seats on the roof are to be provided. Passengers in a second-class carriage which has no door should take care not to put out their leg.)
3. Never get out at the wrong side of a railway carriage.
4. Never pass from one side of the railway to the other except when it is indispensably necessary to do so, and then not without the utmost precaution. This rule brings to mind a story published in our contemporary, *The Newsboy*, which relates the following conversation overheard at a country station by one of W. H. Smith & Son's staff:

Countrywoman (to porter)· 'Has the 3.15 gone?'

Porter· 'Just, madam.'

Countrywoman· 'And the 4.38?'

Porter: 'Over an hour to wait, madam.'

Countrywoman· 'And is there no other in between?'

Porter. 'No, madam.'

Countrywoman 'Then come on, John, we can cross the line in safety.'

Evidently the old lady had been studying Dr. Lardner!

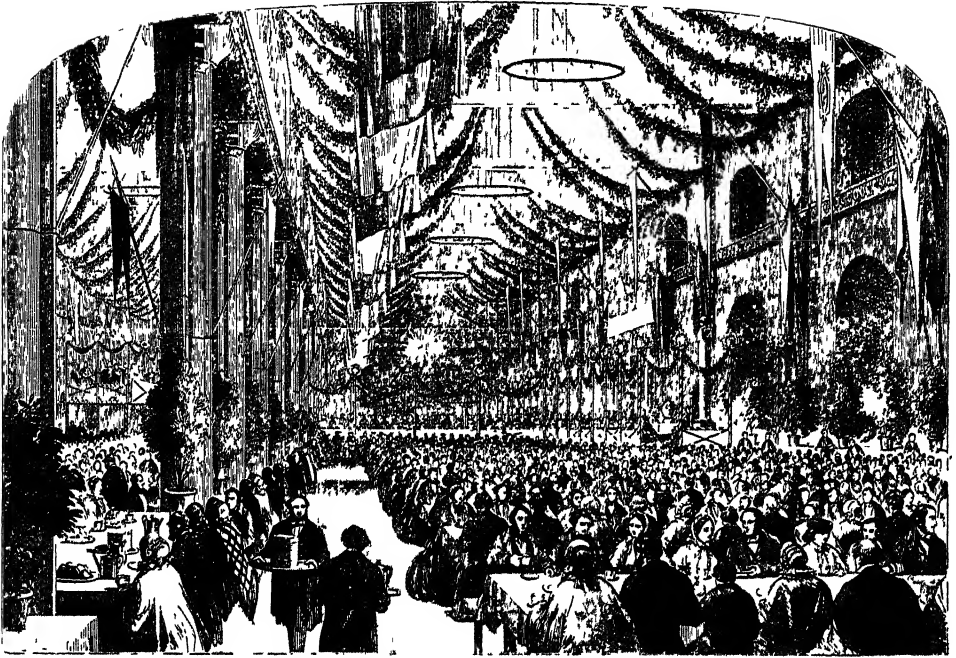
THE RAILWAY AGE

5. Express trains are attended with more danger than ordinary trains.
Those who desire the greatest degree of security should use them only when great speed is required.
6. Special trains, excursion trains, and all other exceptional trains on railways are to be avoided, being more unsafe than the ordinary or regular trains.
7. If the train in which you travel meets with an accident, by which it is stopped at a part of the line or at a time when such stoppage is not regular, it is more advisable to quit the carriage than to stay in it, but in quitting it remember Rules 1, 3, and 4.
8. Beware of yielding to the sudden impulse to spring from the carriage to recover your hat, which has blown off, or a parcel dropped.
9. When you start on your journey select, if you can, a carriage at or as near as possible to the centre of the train.
10. Do not attempt to hand an article into a train in motion.
11. If you travel with your private carriage, do not sit in it on the railway.
Take your place by preference in one of the regular railway carriages.
12. Beware of proceeding on a coach road across a railway at a level crossing.
Never do so without the express sanction of the gatekeeper.
13. When you can choose your time travel by day, rather than by night, and if not urgently pressed do not travel in foggy weather.



An early Railway Buffet

SOCIAL ACTIVITIES



Monster Festival for employees at Crewe

THE OPENING OF THE NEW LINES—BANQUETS AND FÊTES

The gaieties that accompanied the entry of railways into men's lives will always be unique, never again will man be celebrating such an upheaval. The Victorian atmosphere, however, pervaded everything: even such a shock as an entirely new, incredibly rapid and rather violent method of travel must be suitably inaugurated. Although the young Queen was reputed to have said on more than one occasion, 'Not so fast, driver,' the almost magical increase in speed was accepted. Were not such wonders part of a Divine Providence?

By far the most dramatic of all the formal openings was the inauguration of the new Manchester and Liverpool Railway, not merely because it was the first railway of real importance, but also because of the tragic accident by which one of the chief pioneers was killed. Yet Mr. Huskisson's death, sad though it was, seems, as one reads of it, to complete the picture of that memorable day. Like the skull which used to decorate the corner of famous men's portraits, that sudden disaster at that particular moment seems to show that even the greatest feats are but the work of mortals. But the account of that momentous day must be told by a contemporary who was present, and to have a true sympathy with the high lights and deep shadows we must read of it in detail.

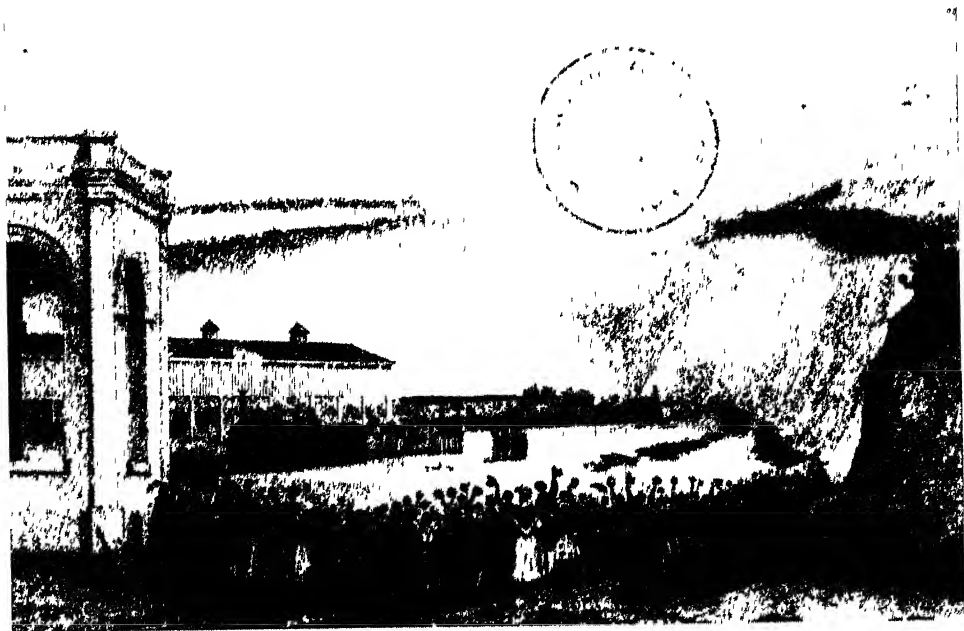
Liverpool was never so full of strangers, they poured in during the last, and the beginning of the present, week from almost all parts of the three kingdoms, and we believe that through Chester alone, which is by no means a principal road to Liverpool, four hundred extra passengers were forwarded on Tuesday. All the inns in the town were crowded to overflowing, and carriages stood in the streets at night, for want of room in the stable yards.

On the morning of Wednesday the population of the town and of the country began very early to assemble near the railway. The weather was favorable, and the Company's station at the boundary of the town was the rendezvous of the nobility and gentry who attended, to form the procession at Manchester. Never was there such an assemblage of rank, wealth, beauty, and fashion in this neighbourhood. From before nine o'clock until ten the entrance in Crown street was thronged by the splendid equipages from which the company was alighting, and the area in which the railway carriages were placed was gradually filling with gay groups eagerly searching for their respective places, as indicated by numbers corresponding with those on their tickets.

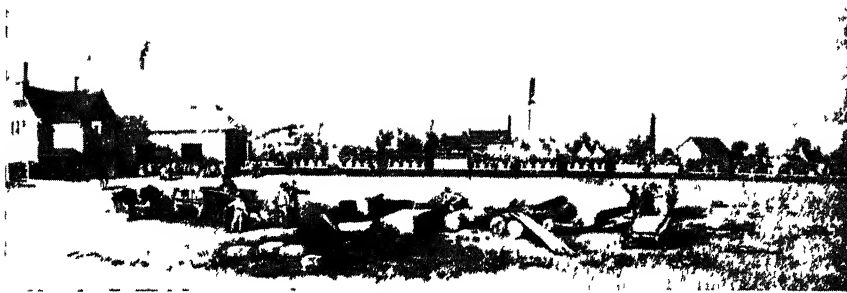
The large and elegant car constructed for the nobility, and the accompanying cars for the Directors and the musicians were seen through the lesser tunnel, where persons moving about at the far end appeared as diminutive as if viewed through a concave glass. The effect was singular and striking. In a short time all those cars were brought along the tunnel into the yard which then contained all the carriages, which were to be attached to the eight locomotive engines which were in readiness beyond the tunnel in the great excavation at Edge-hill. By this time the area presented a beautiful spectacle, thirty-three carriages



68 *The opening of the Stockton and Darlington Railway brought together a crowd of every class—most of them taking a holiday in the same spirit as many go to the Derby*



69 *The opening of the new railway to Shorocham has a picturesque background. Though less commercially important than the Northern lines, the Southern railways, nevertheless, aroused great enthusiasm*



70 *The rustic scene at the opening of the Paisley and Renfrew Railway shows a long train with four classes of carriages. The country crowd of all kinds was enjoying a jaunt in the train.*



71 *The print of the station on the Liverpool and Manchester Railway, at which Huskisson was run over during the opening ceremony, has a deserted and gloomy appearance over which the terrible tragedy seems to brood. The Liverpool and Manchester Railway was the first line which carried passengers throughout its entire length by locomotive engines.*

being filled by elegantly dressed persons, each train of carriages being distinguished by silk flags of different colors; the band of the 4th King's Own Regiment, stationed in the adjoining area, playing military airs, the Wellington Harmonic Band, in a Grecian car for the procession, performing many beautiful miscellaneous pieces, and a third band occupying a stage above Mr Harding's Grand Stand, at William the Fourth's Hotel, spiritedly adding to the liveliness of the hour whenever the other bands ceased

A few minutes before ten, the discharge of a gun and the cheers of the assembly announced the arrival of the Duke of Wellington, who entered the area with the Marquis and Marchioness of Salisbury and a number of friends, the band playing 'See the conquering Hero comes'. He returned the congratulations of the company, and in a few moments the grand car, which he and the nobility and the principal gentry occupied, and the cars attached to it, were permitted to proceed, we say permitted, because no applied power, except a slight impulse at first, is requisite to propel carriages along the tunnel, the slope being just sufficient to call into effect the principle of gravitation. The tunnel was lighted with gas, and the motion in passing through it must have been as pleasing as it was novel to all the party. On arriving at the engine station, the cars were attached to the Northumbrian, locomotive engine, on the southern of the two lines of rail; and immediately the other trains of carriages started through the tunnel and were attached to their respective engines on the northern of the lines.

We had the good fortune to have a place in the first train after the grand cars, which train, drawn by the Phoenix, consisted of three open and two closed carriages, each carrying twenty-six ladies and gentlemen. The lofty banks of the engine station were crowded with thousands of spectators, whose enthusiastic cheering seemed to rend the air. From this point to Wavertree-lane, while the procession was forming, the grand cars passed and repassed the other trains of carriages several times, running as they did in the same direction on the two parallel tracks, which gave the assembled thousands and tens of thousands the opportunity of seeing distinctly the illustrious strangers, whose presence gave extraordinary interest to the scene. Some soldiers of the 4th Regiment assisted the railway police in keeping the way clear and preserving order, and they discharged their duty in a very proper manner. A few minutes before eleven all was ready for the journey, and certainly a journey upon a railway is one of the most delightful that can be imagined.

Our first thoughts, it might be supposed, from the road being so level, were that it must be monotonous and uninteresting. It is precisely the contrary; for as the road does not rise and fall like the ground over which we pass, but proceeds nearly at a level, whether the land be high or low, we are at one

moment drawn through a hill, and find ourselves seventy feet below the surface, in an Alpine chasm, and at another we are as many feet above the green fields, traversing a raised path, from which we look down upon the roofs of farm houses, and see the distant hills and woods. These variations give an interest to such a journey which cannot be appreciated until they are witnessed. The signal gun being fired, we started in beautiful style, amidst the deafening plaudits of the well-dressed people who thronged the numerous booths, and all the walls and eminences on both sides the line. Our speed was gradually increased till, entering the Olive Mountain excavation, we rushed into the awful chasm at the rate of twenty-four miles an hour. The banks, the bridges over our heads, and the rude projecting corners along the sides, were covered with masses of human beings past whom we glided as if upon the wings of the wind.

Entering upon Parr Moss we had a good view of Newton Race Course and the stands, and at this time the Duke was far ahead of us, the grand cars appeared actually of diminutive dimensions, and in a short time we saw them gliding beautifully over the Sankey Viaduct, from which a scene truly magnificent lay before us. The fields below us were occupied by thousands who cheered us as we passed over the stupendous edifice, carriages filled the narrow lanes, and vessels in the water had been detained in order that their crews might gaze up at the gorgeous pageant passing far above their mast heads. Here again was a grand stand, and here again enthusiastic plaudits almost deafened us. Shortly, we passed the borough of Newton, crossing a fine bridge over the Warrington road, and reached Parkside, seventeen miles from Liverpool, in about four minutes under the hour. At this place the engines were ranged under different watering stations to receive fresh water, the whole extending along nearly half a mile of road. Our train and two others passed the Duke's car, and we in the first train had had our engine supplied with water, and were ready to start, some time before we were aware of the melancholy cause of our apparently great delay. We had, most of us, alighted, and were walking about, congratulating each other generally, and the ladies particularly, on the truly delightful treat we were enjoying, all hearts bounding with joyous excitement, and every tongue eloquent in the praise of the gigantic work now completed, and the advantages and pleasures it afforded.

A murmur and an agitation at a little distance betokened something alarming and we too soon learned the nature of that lamentable event, which we cannot record without the most agonized feelings. On inquiring, we learnt the dreadful particulars. After three of the engines with their trains had passed the Duke's carriage, although the others had to follow, the company began to alight from all the carriages which had arrived. The Duke of Wellington and Mr. Huskisson had just shaken hands, and Mr. Huskisson, Prince Esterhazy, Mr. Birch,

Mr. H Earl, Mr. William Holmes, M.P., and others were standing in the road, when the other carriages were approaching. An alarm being given, most of the gentlemen sprang into the carriage, but Mr Huskisson seemed flurried, and from some cause, not clearly ascertained, he fell under the engine of the approaching carriages, the wheel of which shattered his leg in the most dreadful manner. On being raised from the ground by the Earl of Wilton, Mr. Holmes, and other gentlemen, his only exclamations were 'Where is Mrs. Huskisson? I have met my death God forgive me'. Immediately after he swooned Mr. Brandreth, and Dr. Southey, of London, immediately applied bandages to the limb. In a short time the engine was detached from the Duke's carriage, and the musicians' car being prepared for the purpose, the Right Honorable gentleman was placed in it, accompanied by his afflicted lady, with Dr. Brandreth, Dr. Southey, the Earl of Wilton, and Mr Stephenson, who set off in the direction of Manchester.

The whole of the procession remained at least another hour, uncertain what course to adopt. A consultation was held on the open part of the road, and the Duke of Wellington was soon surrounded by the Directors, and a mournful group of gentlemen. At first it was thought advisable to return to Liverpool, merely dispatching one engine and a set of carriages, to convey home Lady Wilton, and others who did not wish to return to Liverpool. The Duke of Wellington and Sir Robert Peel seemed to favour this course, others thought it best to proceed as originally intended but no decision was made till the Boroughreeve of Manchester stated, that if the procession did not reach Manchester, where an unprecedented concourse of people would be assembled, and would wait for it, he should be fearful of the consequences to the peace of the town. This turned the scale and his Grace then proposed that the whole party should proceed, and return as soon as possible, all festivity at Manchester being avoided. The Phoenix, with its train, was then attached to the North Star and its train, and from the two united a long chain was affixed to his Grace's car, and although it was on the other line of the rail, it was found to draw the whole along exceedingly well.

About half-past one, we resumed our journey; and we should here mention that the Wigan Branch Railway Company had erected near Parkside bridge, a grand stand, which they and their friends occupied, and from which they enthusiastically cheered the procession. On reaching the twentieth mile post we had a beautiful view of Rivington Pike, and Blackstone Edge, and at the twenty-first the smoke of Manchester appeared to be directly at the termination of our view. Groups of people continued to cheer us, but we could not reply, our enjoyment was over Tyldesley Church, and a vast region of smiling fields here met the eye, as we traversed the flat surface of Chat Moss, in the midst of

which a vast crowd was assembled to greet us with their plaudits; and from the twenty-fourth mile post we began to find ourselves flanked on both sides by spectators extending in a continuous and thickening body all the way to Manchester.

At the twenty-fifth mile post we met Mr. Stephenson returning with the Northumbrian engine. In answer to innumerable and eager inquiries, Mr. Stephenson said he had left Mr. Huskisson at the house of the Rev. Mr. Blackburn, Vicar of Eccles, and had then proceeded to Manchester, whence he brought back medical assistance, and that the surgeons, after seeing Mr. Huskisson, had expressed a hope that there was no danger. Mr. Stephenson's speed had been at the rate of thirty-four miles an hour during this painful errand. The engine being then again attached to the Duke's car, the procession dashed forward, passing countless thousands of people upon house tops, booths, high ground, bridges, etc., and our readers must imagine, for we cannot describe, such a movement through an avenue of living beings, and extending six miles in length. Upon one bridge a tri-colored flag was displayed, near another the motto of 'Vote by ballot' was seen, in a field near Eccles, a poor and wretchedly-dressed man had his loom close to the roadside, and was weaving with all his might, cries of 'No Corn Laws' were occasionally heard, and for about two miles the cheerings of the crowd were interspersed with a continual hissing and hooting from the minority. On approaching the bridge which crosses the Irwell, the 59th Regiment was drawn up, flanking the road on each side, and presenting arms as his Grace passed along.

We reached the warehouses at a quarter before three, and those who alighted were shown into the large upper rooms where a most elegant cold collation had been prepared by Mr. Lynn, for more than one thousand persons. The greater portion of the company, as the carriages continued to arrive, visited the rooms and partook in silence of some refreshment. They then returned to their carriages which had been properly placed for returning. His Grace and the principal party did not alight, but he went through a most fatiguing office for more than an hour and a half, in shaking hands with thousands of people, to whom he stooped over the hand-rail of the carriage, and who seemed insatiable in their desire to join hands with him. Many women brought their children to him, lifting them up that he might bless them, which he did, and during the whole time he had scarcely a minute's respite. At half-past four the Duke's car began to move away for Liverpool.

They would have been detained a little longer, in order that three of the engines, which had been to Eccles for water, might have dropped into the rear to take their places; but Mr. Lavender represented that the crowd was so thickening in upon all sides, and becoming so clamorous for admission into the

area, that he would not answer for the peace of the town, if further delay took place. The three engines were on the same line of rail as the Duke, and they could not cross to the other line without getting to a turning place, and as the Duke could not be delayed on account of his keeping the crowd together, there was no alternative but to send the engines forward. One of the other engines was then attached to our train, and we followed the Duke rapidly, while the six trains behind had only three engines left to bring them back. Of course, we kept pace with the Duke, who stopped at Eccles to inquire after Mr. Huskisson. The answer received was that there was now no hope of his life being saved; and this intelligence plunged the whole party into still deeper distress.

At Roby, his Grace and the Childwalls alighted and proceeded home; our carriages then moved forward to Liverpool, where we arrived about seven o'clock, and went down the great tunnel, under the town, a part of the work which, more than any other, astonished the numerous strangers present. It is, indeed, a wonderful work, and makes an impression never to be effaced from the memory. The Company's yard, from Saint James's Street to Wapping, was filled with carriages waiting for the returning parties, who separated with feelings of mingled gratification and distress, to which we shall not attempt to give utterance. We afterwards learnt that the parties we left at Manchester placed the three remaining engines together, and all the carriages together, so as to form one grand procession, including twenty-four carriages, and were coming home at a steady pace, when they were met near Newton by the other three engines, which were then attached to the rest, and they arrived in Liverpool about ten o'clock.

Thus ended a pageant, which, for importance as to its object and grandeur in its details, is admitted to have exceeded anything ever witnessed. We conversed with many gentlemen of great experience in public life, who spoke of the scene as surpassing anything they had ever beheld, and who computed, upon data which they considered to be satisfactory, that not fewer than 500,000 persons must have been spectators of the procession.

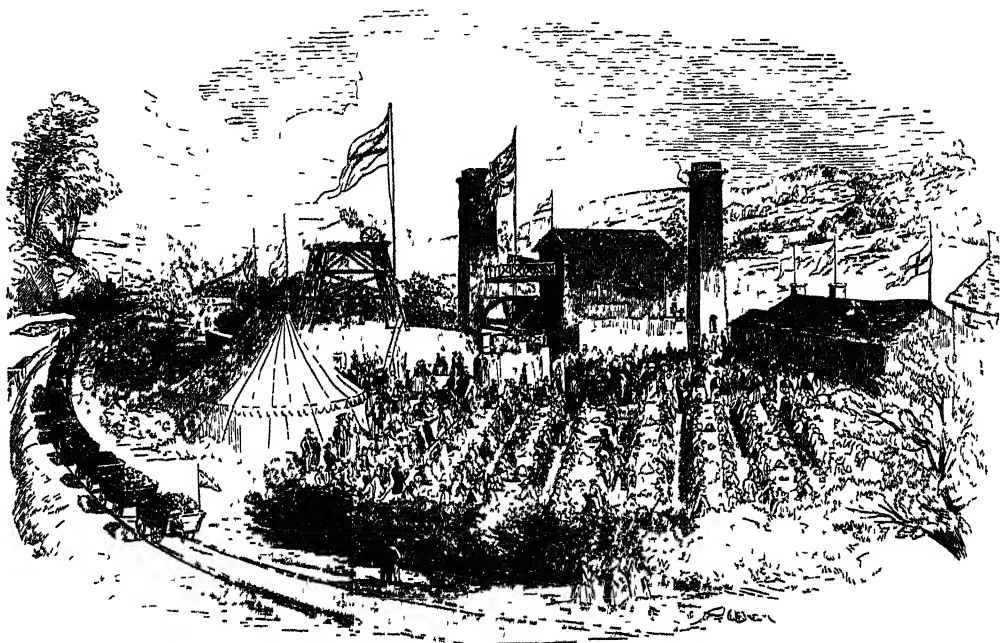
Of other openings and of the banquets which were usually part of the proceedings there are many contemporary accounts. When the Queen and Prince Albert journeyed by train from Tottenham to Cambridge in 1847 for the Prince's Installation, a special arch of flowers and evergreens was erected at Tottenham Station and a pavilion as a reception room, and there were several bands. The Plymouth Station in 1849 was gay with flags, so was the station at

Swansea on June 18th of the following year, 'a day celebrated in the military history of our country, but of late years judiciously selected for the consummation of many magnificent labours of peace'.

As a contrast some of the Railway Companies in the Highlands opened their lines with little or no ceremony, and at least one English company felt the same. When the Leamington and Warwick Railway opened there were no flags. 'The opening train', *The Illustrated London News* writes, 'unadorned and in simple business guise—according to the custom of the London and Birmingham Company, who seem to have a natural horror of flags and bands of music—left Coventry a little after nine o'clock in the morning; and although the weather was far from propitious, its departure was witnessed and cheered by a vast multitude of well-dressed spectators. In its course past the numerous bridges, which give a character to the rail, and at other good points of observation, the same testimonies of respect were paid to the courageous inmates of the snug first classes on this, their gallant venture. At Kenilworth, many ladies graced the triumph with their presence, and some danger was incurred by their very close proximity to the rails. At Leamington, an immense assemblage of respectable persons, together with the élite of the neighbourhood, received the train, which was hereafter to put them within three hours and a half of the metropolis, with every mark of intelligent gratulation. The day then became a universal holiday. Business was everywhere suspended, festivities of all sorts were interchanged by the delighted people, and at night a grand dinner, given to the directors and friends of the railway, came off in grand style at the Regent's Hotel, and crowned the opening day.'

In most cases, and for very many years, great banquets and elaborate festivities were duly held. There is a gay little print of the Fête in celebration of 'Winning the Coal' on the Rhondda Branch

of the Taff Vale Railway, in which a vast concourse of people are seated feasting, the visitors in a tent, the employees outside, whilst a train with coal trucks steams busily by and partly encircles them. Many of the banquets are an amusing contrast. There is the Sumptuous Dinner to the Railway Contractors at Carlisle in December of 1846, a week after the opening of the Lancaster and Carlisle



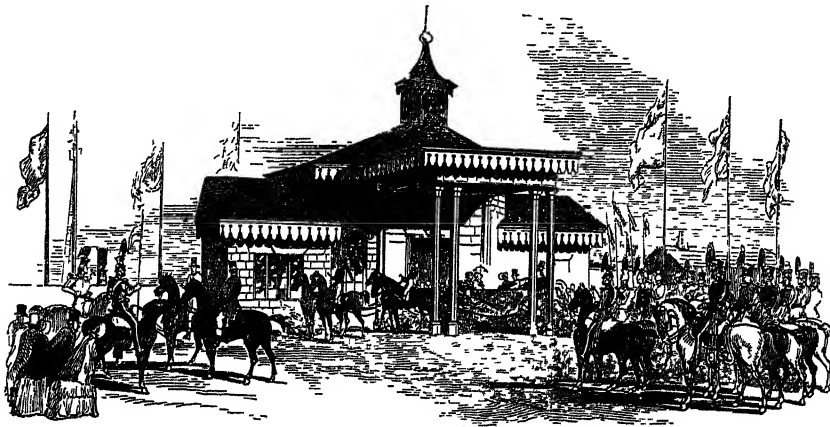
'Winning the Coal' An opening festival at Rhondda

Railway. But there is also the modest Soirée Tea to all the employees at Crewe, together with their wives and daughters over sixteen. For this latter there was an additional reason—Crewe, owing to the railway works, had just grown 'from a mere Cheshire township to a town of 1,500 houses and 9,000 inhabitants with its Church, Chapels, market places, market-hall, Mechanics' Institute, public schools and municipal organization'.

Even buildings like the Lord Warden Hotel at Dover, which the

South Eastern Railway Company intended to hand over to an outside management as soon as possible, had its opening Dinner in 1853. The Doric order of architecture suits the Victorian diners admirably; special attention, we learn, was paid to the fruit, the pine-apples look particularly noble, and no doubt the silver épernes were embossed with fruit as well.

Smiles' Lives, and such Lives as that of Brunel by his son, show the esteem and almost veneration in which the railway pioneers were held, and they in turn no doubt showed due veneration to the existing order of society. The Royal Stations at Wandsworth Road and at Gosport, now gone and almost completely forgotten, might have been left as a small memorial of Victorian days and of what the surroundings of the earlier railways were like. By such tangible remains alone can we hope to realize a little what the railways meant when a station was a thing of dignity and consequence, whether it was great or small, for Royalty or for the rapidly rising proletariat.



Queen Victoria's arrival at a specially constructed pavilion at Tottenham



72 The Stephenson family are more than a mere family group, they show the spirit of benefaction that lay behind the Victorian railway pioneers. George is sitting with his miner's Safety Lamp in his hand and looking up at his son, Robert, who was to become the first millionaire engineer.



73 *An early railway jug The enthusiasm for the new form of transit was widespread Many articles of daily use were decorated by pictures of steam engines, such as 'The Novelty'*



74 *'The Drivers of the Mail' The moment that England realized that the railways had come to stay pride on the one hand and resentment on the other began to die down The steam engine was accepted as a fact, for better or worse and the change from the coaching days to the railway age became a matter of sentimental interest*

THE LONDON RAILWAYS

*Projected elevated street railway.*

Except for the suburban traffic on the great railways that had penetrated into the heart of London, there was at first little intercommunication by rail between the different districts of the metropolis. London was settling down to the drastic changes that the great railway termini were making in the various neighbourhoods that they had invaded. Round Victoria, Paddington, King's Cross, Euston and St. Pancras, the whole character of the inhabitants was altering. Houses bordering on the main lines suddenly deteriorated, while those only a few hundred yards on the further side of the termini remained as fashionable as ever. Eaton Square, Lancaster Gate, Harley Street, the terraces bordering on Regent's Park, all remained 'high class property', while the houses on the lines themselves or adjoining the termini deteriorated rapidly. They became the resorts of those who found that the new railways took them rapidly from gossiping neighbours to the freer atmosphere of places where they were less well known. A growing number of small hotels and houses served for those who were finding easier opportunities for this new freedom. The local railways, however, made much less alteration in the surrounding house property.

There were many interesting prints of the railways that first

united different parts of London to each other, and which brought what we would now call suburban traffic to the centre of London; and there were also many prospective views. There is the picturesque prospective view of the Trunk Viaduct on the London Union Railway, there is the imposing bird's-eye view of the Skinner Street to Camden Town Railway, the charming print by Prior of the Railway Bridge crossing Holloway Road, the view of the River Lea Bridge and the Stratford Viaduct, 'as now constructing for the Eastern Counties Railway'. The guide books to the new railways had 'splendid woodcuts'. Invitations for the opening days, such as that of the London and Greenwich Railway, the first railway in London, had 'views' at the top and were accompanied by tickets for a *Déjeuné*. All the time the battle of the Gauges continued.

What was called the Kensington Railway from Paddington, operating as early as 1844, was not at first popular. A contemporary writes:

In order to preserve the strict privacy and retirement to which this railway seems devoted, a hoarding has been put up to prevent the public from seeing the trains, so that any passenger who goes by them may enjoy the most secluded solitude. An application has been made to WIMBUSH to put his omnibus in connection with the line, so that the whole arrangements may be in strict keeping with that spirit of extreme oneness, which has hitherto been obvious in the number of passengers, who have started by the Kensington Railway. One cab has also been put upon the vacant ground in front of the booking-office, but at present nothing seems to have been booked but the railroad itself. One waterman is also appointed to the bench on the public house opposite, where he sits all day in close and anxious consultation with the one cabman.

It is a singular experience to be a passenger on this railway:

A Passenger at Last!

An omnibus suddenly drew up at the Kensington and Wormwood Scrubbs Little Western and No Junction Railway, at 35 m p. 7, on Saturday evening last the sensation created was immense. On the roof was observed a gentleman with a brown paper parcel; the One Porter in stupefied amazement rushed to

the omnibus—the Gentleman threw down his luggage, and scrambling down, demanded, in a trembling voice, if the ‘train was gone’. Bewildered by the strange question, the porter could not answer but, taking violently to his heels, ran over the way to fetch the Clerk. Five minutes afterwards, a person in shirt sleeves emerged from the public-house opposite and, with a curl on his lip, told the Gentleman ‘he was the Clerk’. The Gentleman gave a convulsive twitch to his brown paper parcel, and mildly replied ‘he wished to go to Bath’. A cry was immediately raised of ‘Where’s the Stoker?’ and a pot-boy out of place, having volunteered as the Guard, was, after a consultation of five minutes between the Clerk and the till, despatched to Hammersmith for a half hundred-weight of coals. The steam, however, was got up in less than forty minutes and, at about $\frac{1}{2}$ p 8, the *Special* train started with its one passenger for Bath. In the evening the office was lighted up with gas, and the clerk invited the Conductor and Cad of the Omnibus to an elegant *souper* of Welsh rabbits and cheroots, in commemoration of this event. The beer was of the best XXX.

Gradually, however, short railways joined the London termini, and the new station at Victoria catered for a certain amount of local traffic. One of the earliest and most important of what we may call the inner London Railways was the Metropolitan Railway, opened in 1864 with a mixed gauge and which joined Paddington, Euston, and King’s Cross and terminated at Farringdon Street. Soon ‘Let’s all go Underground’ became a popular song, and it is interesting to read what an *Illustrated London News* of 1860 writes of the very first of the London Undergrounds:

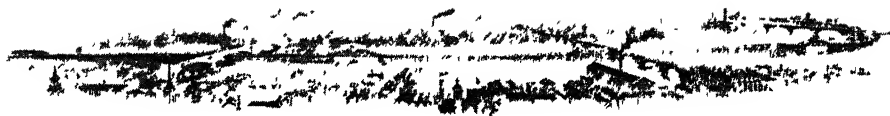
It is intended to run light trains at short intervals, and calling at perhaps alternate stations, and all risk of collision will be avoided by telegraphing the arrival and departure of each train from station to station, so that there will always be an interval of at least one station between the trains. The traffic is to be worked by locomotive engines of a novel and ingenious construction. In order to obviate the annoyance in a tunnel arising from smoke and the products of combustion, the locomotives will have no firebox, but will be charged with hot water and steam at a certain pressure to be supplied by fixed boilers at the termini, and will be furnished with a large heater to assist in maintaining the temperature. It is estimated that each locomotive will thus carry with it sufficient power to enable it to effect the double journey. In order to test the efficiency of locomotives constructed on this principle the directors have

instructed Messrs Stephenson & Co. to build a broad-gauge engine, which will be employed in the construction of the works.

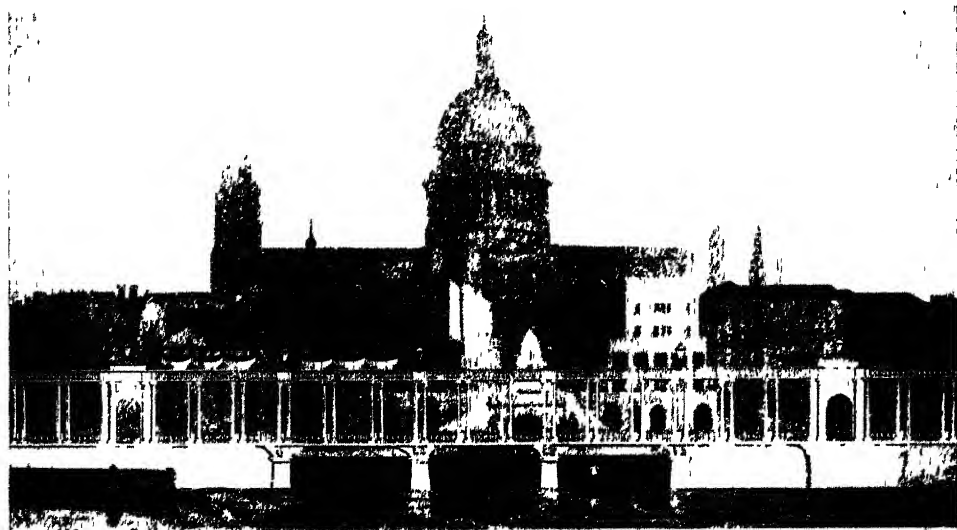
The general character of the archway may be gathered from the engraving of the Baker Street Station, and the mode of construction is shown by the sketch of the works as actually in progress at King's Cross. The ordinary process is to open the ground, construct the archway, and then replace the surface. In this manner the whole of the New road will be taken up and relaid in sections. This is not only a much cheaper process than that of tunnelling, but it admits of the work being finished in a much more complete style, and rendered perfectly watertight.

Fresh excitement came in 1864, when the 'District' was incorporated with powers to construct a line from Kensington to the City, the ultimate object being to link up with the Metropolitan Railway, and so form the southern segment of a railway encircling the City and West End. The first section to be completed, the nucleus of the Underground system of to-day, was from Kensington High Street to Gloucester Road, and was opened in 1868. From then onwards the Underground railways of London grew rapidly, section after section. *Punch*, in its opening numbers of 1841, had many references to the new railways that were spreading over England, and in 1846 had 'a prophetic view of the subterranean railways' in London. Grandiose plans were made for termini to the Metropolitan Railway and Gladstone, who had taken a leading part in connection with railway legislation, himself travelled in an open truck under London.

Startling schemes were planned and then abandoned. There was to be a railway down the new Victoria Street to Westminster Abbey, a railway along the middle of the Thames, a railway on an upper level along the streets. After all, such plans were nothing to the Thames Tunnel, which already existed, or to the Channel Tunnel, which was being proposed. Interest and enthusiasm in railways had spread in all directions, it was now captivating the attention and the imagination of the Londoner. In area and in population London



75 The railways themselves were so startling a novelty that schemes for their furtherance grew equally bold. Few to-day would seriously consider a roadway or a railway down the centre of the Thames

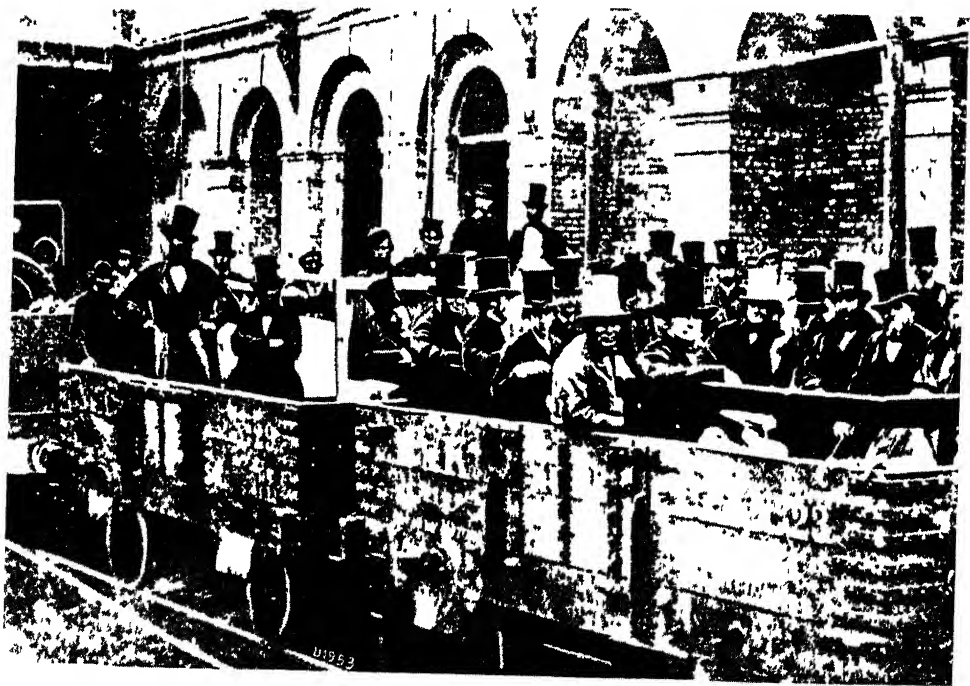


VIEW OF THE PROPOSED LINE OF RAILROAD ALONG THE BANKS OF THE THAMES FROM HUNGERFORD MARKET TO LONDON BRIDGE.

76 The proposed railway along the side of the Thames had much to commend it, and in the form suggested it might have been far more attractive than the New York overhead railway

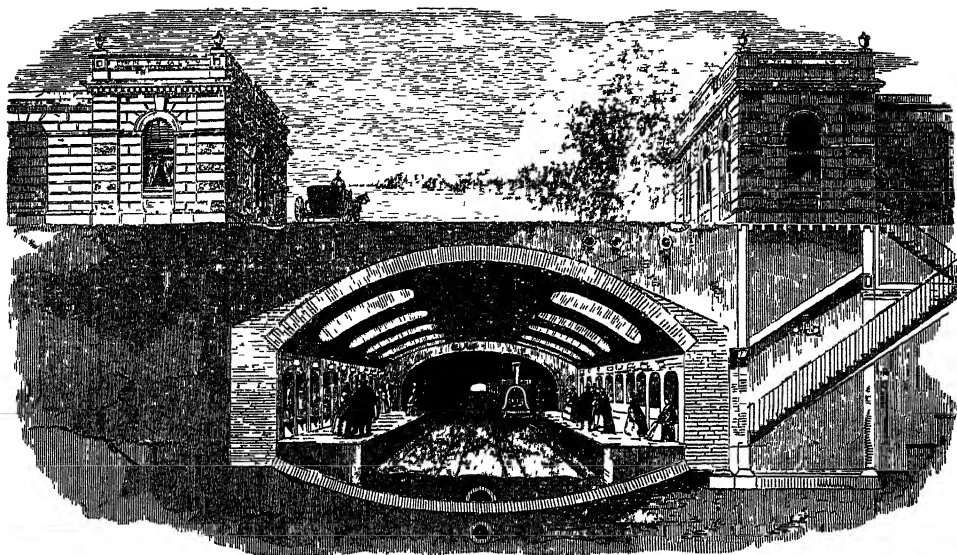


77 The Underground Station at Baker Street The London Underground was a new, though a later, marvel Unlike our modern tubes, it was not bored through the ground, but for the most part cuttings were made and afterwards roofed in where convenient There were a considerable number of short tunnels, but at frequent intervals the trains played hide and seek with the daylight above, and they did not remain underground for long

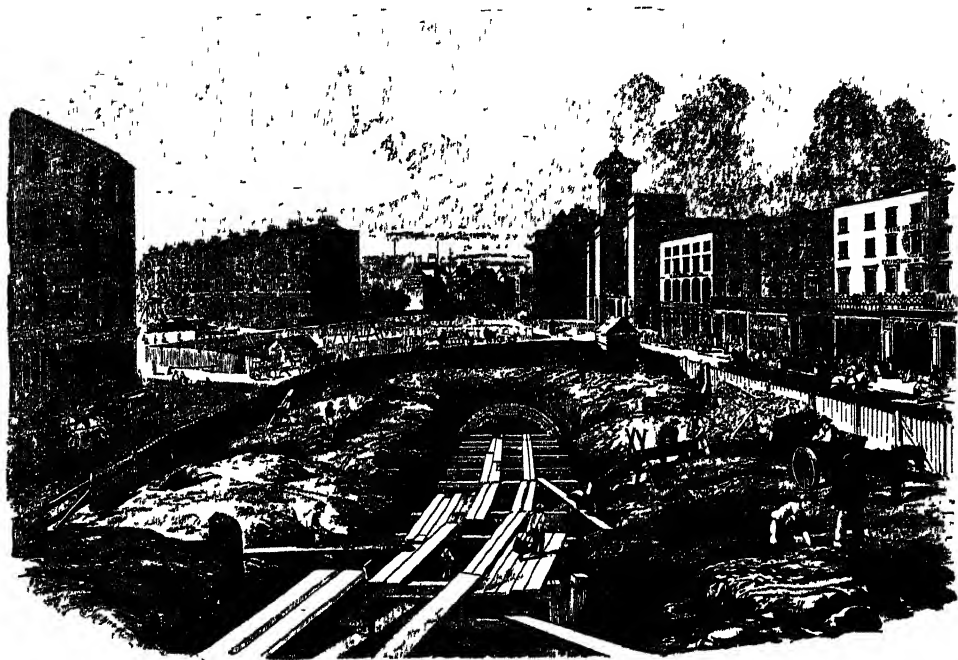


78 The early photographs, unlike the modern snapshot, usually show groups of people happily self-conscious It is clear that Mr and Mrs Gladstone and their companions, as they posed for the photographer, were fully alive to the importance of the occasion

THE LONDON RAILWAYS



Proposed Metropolitan Railway Station at Baker Street



Excavations for the Metropolitan (Underground) Railway near King's Cross.

was growing rapidly, transport was obviously needed from one part of it to another.

London has probably been more changed by its railways than by anything else. The railways that came into it and later those which linked one district with another had the most far-reaching effect. Suburban lines made or marred whole districts, and the extension of the tubes in almost every direction is doing the same to-day. It is amusing to imagine what London would have been like if any of the proposed schemes had been adopted. London traffic was not nearly so complicated a matter then as it is now, and the suggestions, no doubt, were within the bounds of possibility. The face of London would have been very different, and London would have had problems very different from those of to-day.

If the terminus, which had been suggested, had been built in Hyde Park, much of the site of Paddington Station might have been, as parts of Paddington still are, a rather dreary medley of miscellaneous buildings. With a station in its midst, Hyde Park would not have been quite the select promenade that it was in the Victorian days. Would the sites of the public speakers near Marble Arch have been where they are? Would the horses in Rotten Row have taken fright at the trains? It is possible that the sides of the railway along Edgware Road might have been opened up and rebuilt and we might have had a nobler entrance to London than exists at present.

The suggested railway down the new Victoria Street with, perhaps, a road each side would have certainly made a finer approach to the Abbey than the present Victoria Street; but it is doubtful whether trains approaching directly up to the Abbey would have had an appropriate dignity, and whether the roads so near the railway and on each side of it would have been popular.

The railway down the centre of the Thames was by far the most revolutionary idea and would have had the most far reaching

consequences. One can picture fine bridges joining it to the banks on either side, and had it included a roadway as well as a railway it would have been a wonderful relief to the modern traffic problems. The other streets in London would have been far less congested, and in spite of its sweeping curves it would have made a perfect arterial road for those who wanted to get quickly out of the metropolis. There would have been fine views of London for those who journeyed down this unique highway. The river on each side would have made a charming foreground to views of London which we now, alas, only occasionally see from steamers. It is possible also that some of the more adventurous, or those anxious for a little rowing exercise, might have met their friends by boat.

The nearest approach to an overhead railway that London has ever seen was the long viaduct which carried the London and Greenwich Railway, the most important early short distance London line. It is doubtful whether an overhead railway, like that in New York, would have ever been acceptable to the Londoner, from the very beginning public opinion took more kindly to 'the Underground'. Intercommunication from different parts of London was, however, done bit by bit. The spirit of some of the early and more adventurous schemes melted away. If they had been more encouraged, there might have developed a tendency towards Town Planning in a London where the difficulties were less than they are to-day. Possibly the successful carrying out of some of the ideas might have left more of the Town Planning spirit amongst us than seems to exist at present.

There were many new projects in and around London, such as the small complete line which, as early as 1845, was laid down on Wimbledon Common expressly to show the value of Prosser's new 'Guide Wheels'. But in most of these projects the imaginative genius of the inventors outstripped the practical uses of their

inventions. Even the smokeless engine for the Underground never achieved success, and until the recent electrification we still had the taste and smell of the Underground as a unique and abiding memory of London life.

One of the most important of all innovations was the use of the 'Electro-Telegraph' by the Great Western Railway in 1844. It caused at first both astonishment and amusement.

In the papers the other day the public will have observed an account of the application of the Electro-Magnetic Telegraph to the Great Western Railway, by which messages are sent up and down the line with extraordinary rapidity. The readers of *Punch* will be delighted to hear that the telegraph has been attached to the 'Wormwood Scrubbs, Kensington, Warwick Square, Paddington Canal, Shepherd's Bush, Little Western, and No Junction Railway', which connects the two-and-a-half milestone with a field in the Western suburbs. The telegraph has been constantly in full play—it is all play and no work on this secluded little line—since Thursday. We give a specimen of the messages.

Kensington, 7.20 a.m. Has the policeman finished his breakfast? No answer.

Kensington, 11 a.m. How are you?

Wormwood Scrubbs, 11 5 a.m. Tol lollish.

Kensington, 11.15 a.m. No passengers by any of the trains. Is it worth while to send one down empty?

Wormwood Scrubbs, 11.20 a.m. You must send something, for here's a man wants to go, and there's nothing to take him.

Kensington, 11.30 a.m. The train has just started with nine boys, who have volunteered to go as passengers.

Wormwood Scrubbs, 1.30 p.m. The train has arrived, but you must send a scuttle of coals to keep the engine fire in.

Kensington, 1.35 p.m. The coals have started, and a kitchen poker.

Wormwood Scrubbs, 2 p.m. The coals have come to hand, but the poker fell off the engine just after it started.

Kensington, 2.30 p.m. The train has come in, but not the passenger who was expected.

Wormwood Scrubbs, 2.35 p.m. He changed his mind.

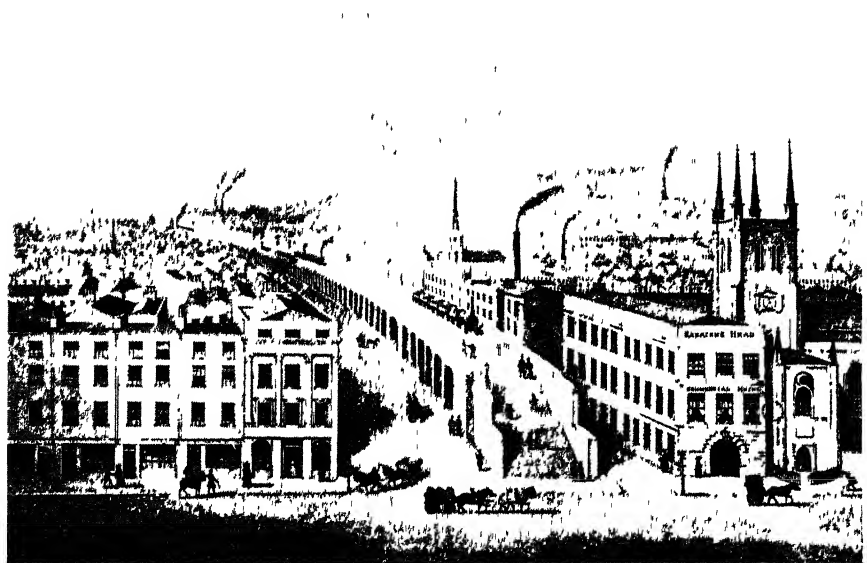
Kensington, 3 p.m. This is dull work—I'm off for the day.

The clerk at Wormwood Scrubbs having been already 'off for the day', there was no answer to the last message.

In the same year *Punch* has an interesting forecast:



79 *The suggested station in Hyde Park is discreetly hidden, and its entrance might have been as unobtrusive as the new entrances to some of our tube stations*



80 *The proposed terminus, at Skinner's Street, of The London Grand Junction Railway. An elevated railway, such as this, would have been a striking feature of London life*

THE LONDON RAILWAYS

Music for Railways

We understand that the Electro-Telegraph is to be further improved by the tuning of the wires on the same principle as the guitar or fiddle-string. A celebrated composer has been requested to furnish a series of airs, so that the correspondence kept up between the stations may be of a musical character.

We have much pleasure in giving our aid to this admirable idea by writing some of the poetry, which is quite at the service of the Great Western Railway, if paid for by the Line, that is to say, if the Line will give a fair price for it.

The following is intended as a duet between the Kensington and the Great Western Railways

Air—'Isabelle'

KENSINGTON

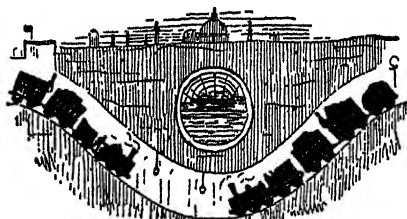
Stay, only stay, where our rails uniting,
Will let us join your train,
Why, all our humble efforts rudely slighting,
Still treat us with disdain?
Our passengers at Wormwood Scrubbs alighting,
Are doomed there to remain,
'Tis not well! 'tis not well! 'tis not well!
Unless a fresh engine we borrow,
Truth to tell! truth to tell! truth to tell!
At the Scrubbs they must stay till to-morrow.

Ah me!

GREAT WESTERN

Stow, prithee, stow your sad entreaties,
To them we can't attend;
Our train, you know, direct and fleet is
Unto its journey's end.
The lot of passengers by you we meet is
Scarce worth your while to send.
But some day! but some day! but some day!
Good fortune the capital sending,
It will pay! it will pay! it will pay!
By to Knightsbridge your railway extending.

Ah me!



THE RAILWAY AGE



*First the shrill whistle, then the distant roar,
 The ascending cloud of steam, the gleaming brass,
 The mighty moving arm, and on amain
 The mass comes thundering like an avalanche o'er
 The quaking earth, a thousand faces pass—
 A moment, and are gone, like whirlwind sprites,
 Scarce seen, so much the roaring speed benights
 All sense and recognition for a while,
 A little space, a minute, and a mile
 Then look again, how swift it journeys on,
 Away, away, along the horizon
 Like drifted cloud, to its determined place;
 Power, speed, and distance melting into space.*

We have now had a hundred years of Railways, and it is only by reading such lines or by looking at some old print, published at the time when a journey on the high road was still the usual mode of travel, that we can fully realize what the beginning of that hundred

years really meant. Even for those who have taken once more to the road the change is not so drastic as that of a hundred years ago, when so many left the roads for the railways. Then it was a change from an animal to a machine, now it is merely from one machine to another. A new kind of man will be created, has already been created, by the motor car, but it will not be such a fundamental change as when man first controlled a machine instead of a horse. Possibly it will be the aeroplane that will produce the next new, and quite distinct, type of man.

If we compare a coaching map of the end of the eighteenth century with an early nineteenth-century railway map in one of the first *Bradshaws*, we realize the change that the railways meant for England. Apart from the speed being ten times what it was, the railways were astoundingly direct. It must not be forgotten that the new trains disappeared into tunnels and went straight through mountains, spanned valleys on lofty viaducts in a way that those who were accustomed to travel by road had never dreamt of. The outlook of man—physical and mental—became suddenly different.

Whole aspects of life altered, the effect of speed, the ability to get from one place to another quickly and cheaply, changed the whole of man's character; society itself altered, became surprisingly democratic in the fullest sense of the word. There were rival views of the effect of the new railways on trade, but one thing was certain: trade was enormously increased, a far greater number of people bought a far greater number of goods. But trade lost its local atmosphere, classes became merged and so did localities, there grew up a general sameness, both in outlook and appearance.

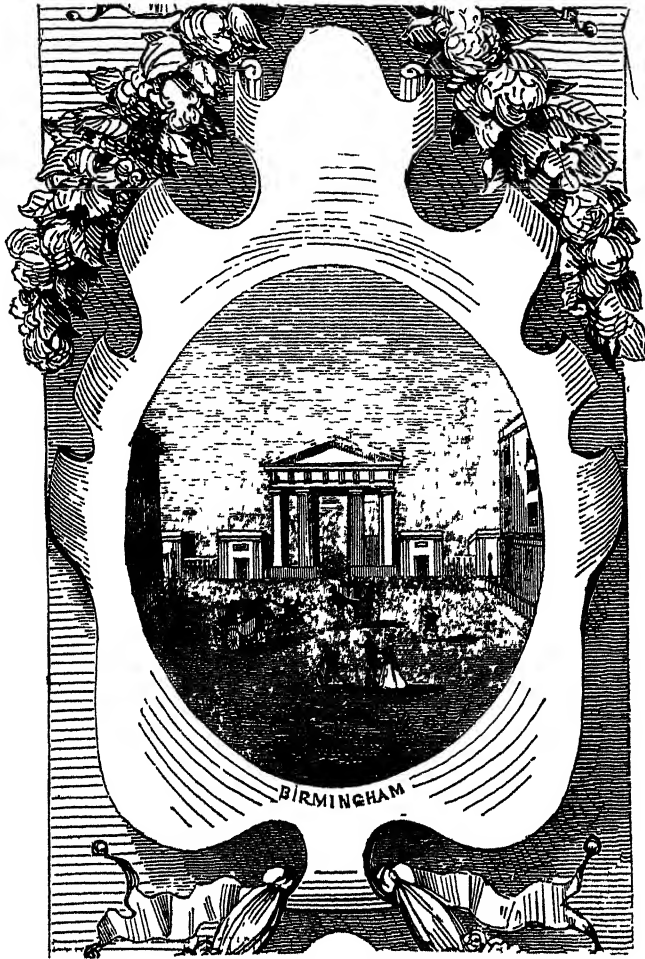
The early railway pioneers were 'speedy goers and strong abiders', but we must remember that the victory of steam, both on land and on the sea, was not as speedy as we sometimes suppose. At sea, for

example, in 1870, only 11 per cent of the world's tonnage was steam driven, 89 per cent still went by sail. There were fears, on the one hand, of a railway monopoly, and on the other that free competition would wear itself out by its own excesses. State Railways in France were not going to show very successful results, and it was not until comparatively recently that Belgium tried the experiment in its rural districts of building railways by co-operation. The outlook in the first half of the nineteenth century was full of complications of all kinds, a very great many for a very long time mistrusted the railways.

It was the youthful-minded that were determined that the railways should succeed, the same spirit of adventure and imaginative enjoyment that sent thousands of children, of all ages, for rides on Volke's sea-going railway at Brighton with its long straddling legs running mysteriously on hidden lines in the water. There was the inspiration that the new knowledge of steam had brought, a hint of the power of electricity and the mysterious and tempting unknown beyond. And all the time it was more than the actual railways that were in men's minds, it was what they would mean for England and for the whole of mankind. Over and over again men foreshadowed what actually happened, the springing-up from almost nothing of great towns like Crewe, where railways suddenly existed, the dwindling of those towns which were not included in the new network of iron roads. The story was the same in every part of the country, though each local history has its own peculiar features, its own joy in what the railways brought, or in what was missed by not having a railway. What were advantages to some were regrets to others, but the change was there, and it was inevitable.

There was the smoke that railways brought, that alone changed the very air of many parts of London, and it is extraordinary that the efforts to conquer the dirt and the noise were so unfruitful.

There was the change in the whole aspect of some of the best known beauty spots in the world, the railway down that long deep valley that gives so unique a character to Princes Street in Edinburgh. Yet



The Railway and Romance.

who would say now that Edinburgh is spoilt? Does not the railway, partly hidden without being ostentatiously concealed, testify to many quite pleasingly that man is still active and progressive, even in the midst of so much historic splendour? Perhaps we are learning

that beauty is something more elastic and more human than we thought, and fits poorly into any preconceived formula.

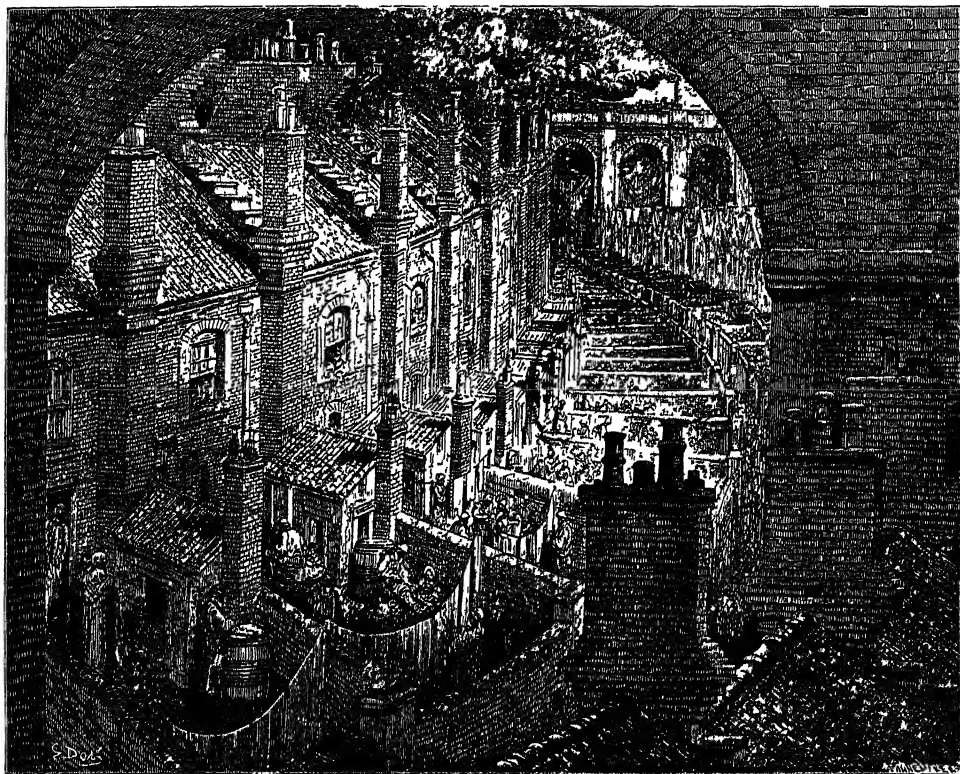
Possibly after their first triumphant entry, after the glory of the Euston arch and the wonder of the Menai bridge, the railways became, in their lesser stations at least, a little diffident—they began to feel that they were, after all, merely commercial undertakings, and that beauty and commerce were necessarily things apart. So there seems to have grown up a certain lack of interest in curious contrast to the early pride and energy. The yard of many stations became a dreary place from which all enthusiasm had departed, and ended sometimes in a dull meaningless squalor.

But in the hearts of many the joy of railway travel was still there. The railways united scattered families and friends in a manner hitherto impossible, except for the well-to-do. To visit a relation from being, in coaching days, a comparatively rare event, became a habit, a constantly occurring interlude in life's routine. The aunt at Margate became almost like the aunt in the next street. For children, and for grown-up people too, the seaside holiday became not only more frequent, but something quite different. Soon almost everyone had 'seen the sea'. Children's picture books and stories of all kinds testify to the excitement of the railway journey, as popular and as much part of the holiday as the bucket and spade. Every incident was an adventure, the guard's whistle and the departure of the train the opening up of a new world.

Even in our present rather blasé existence this spirit is not altogether dead. There are those to whom railways have still their mystery and their glamour. On the front page of a current number of *The Times* there is the following little paragraph: 'Travelling "First Class", to East End youngsters going by rail from Stepney to Southend for a day by the sea, the train is a thing of wonder, a rapid means of transit from gloom and grime to gaiety and clean

breezes. To them the crowded third-class carriages become veritable Pullman cars.' It was something of the spirit of these children that inspired the early railway pioneers.

The hope and the trust were there, as the hope and trust exists



Gustave Doré's impression of London from the train

to-day in our own new adventures. But no present-day comments can reflect the optimistic spirit towards the early railways so well as a typical contemporary Victorian. Railways were to many, not merely a discovery but an inspiration, almost a religion.

No poetry in Railways! foolish thought
Of a dull brain, to no fine music wrought,
By Mammon dazzled, though the people prize
The gold untold; yet shall not we despise

THE RAILWAY AGE

The triumphs of our time, or fail to see,
Of pregnant mind, the fruitful progeny,
Ushering the daylight of the world's new morn

Lay down your rails, ye nations, near and far;
Yoke your full trains to Steam's triumphal car;
Link town to town; and in these iron bands
Unite the strange and oft-embattled lands.
Peace and Improvement round each train shall soar,
And Knowledge light the Ignorance of yore:
Men, joined in amity, shall wonder long
That Hate had power to lead their fathers wrong;
Or that false glory lured their hearts astray,
And made it virtuous and sublime to slay.

Blessings on Science, and her handmaid, Steam!
They make Utopia only half a dream;
And show the fervent, of capacious souls,
Who watch the ball of Progress as it rolls,
That all as yet completed, or begun,
Is but the dawning that precedes the sun.



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